2010

The care plan as an indicator of change in nursing science instruction: a textbook-based analysis

Lindsay Bratton-Mullins
Louisiana State University and Agricultural and Mechanical College

THE CARE PLAN AS AN INDICATOR OF CHANGE IN NURSING SCIENCE INSTRUCTION: A TEXTBOOK-BASED ANALYSIS

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Department of Educational Theory, Policy, and Practice

by
Lindsay Bratton-Mullins
B.S.N., Louisiana State University Health Sciences Center, 2001
M.S.N., Georgetown University, 2004
December 2010

ACKNOWLEDGEMENTS

May the future of nursing be even brighter than its past.

Without my faith in God this dissertation could not have been a thought. Without my husband, Grey, and the joy of my two beautiful children, William and Vivian, my work would be meaningless. Professor Jim Wandersee has been the humble, guiding hand through this educational endeavor and through his kind actions and words I have learned more about valuing students than ever imagined. My family, Pam and Larry Bratton, Shea Beard, Ann, Regi, Sara, Matt, and Currie Mullins have believed in me and come to my aid when work called. Thank you to all for making this experience possible.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF PHOTOGRAPHS

LIST OF FIGURES

LIST OF CHARTS

ABSTRACT

Sciences are critical in nursing education to aid the nurse in understanding health and disease processes. Accrediting bodies for nursing education have emphasized that educators teach in ways that encourage critical thinking and, therefore, produce safe-practicing, competent nurse graduates. Nursing care plans best reflect nursing education's central goals. Because of its longevity of use and familiarity, in this study, the nursing care plan was used as a proxy for nursing science's learning objectives.

This research was a study of the nursing care plan as an indicator for change in nursing science education in the United States, using historical research methods supplemented with phenomenological data analysis. Because historical nursing care plan archives were non-existent, historical nursing textbooks were used to track the care plan's evolution. Key findings included: (a) there is a "disconnect" between care plan instructional goals and their application in real-world nursing; (b) care plans open a new window for science education research on the state of nursing instruction; (c) nursing care plans were shown to have emphasized higher order thinking skills for over 80 years; and (d) the nursing care plan has been expanded from one concentrated patient study to three with a subsequent loss of student focus.

INTRODUCTION

Psychologists have studied learning and the related phenomenon of cognition since the late 19th century, therefore, resulting in numerous theories on how people learn. Joseph Novak is held in highest regard in the Science-learning community. His considerable amount of research, work, teachings, explorations, and endeavors have hinged on one particular phenomena of interest: how to help people become better learners (Mintzes, Wandersee, & Novak, 1997). Michael and Modell (2003) and Robinson (1993) emphasize the learner as a responsible agent in the learning process. In understanding one another, the educator may better educate, and the learner may better learn. As a result, high quality teaching facilitates meaningful and useful learning (Michael & Modell, 2003; Robinson, 1993).

According to Novak (1998), *meaningful learning* is learning one has constructed from a union of his or her actions, feelings, and cognitive thoughts. The learning then becomes knowledge over which he or she has control and creates in the person a sense of power. In turn, those students who develop a "well-organized knowledge structure" are meaningful learners (Mintzes et al., 1997, p. 18). Meaningful learning is connected to critical thinking, a way of thinking that is imperative for the practicing nurse. *Critical thinking* is "the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from observation, experience, reflection, reasoning, or communication " (Keating, 2006, p. 420). One could say meaningful learning leads to critical thinking, and/or meaningful learning is critical thinking. For the purposes of this study and in conjunction with Novak (1998) and Keating's (2006) work, meaningful learning was viewed as learning that leads to critical thinking.

Novak's (1977) studies revealed that instruction based on rote memorization does not significantly add to a learner's usable knowledge, whereas when meaningful learning strategies are used, usable knowledge is encouraged and flourishes. Michael and Modell (2003) define *learning experience* as a change in behavior that results from the learner's interaction with the environment. *Learning* is defined by Robinson (1993) as the process by which a person builds understanding of a subject. Understanding does not come from instruction such as reading textbook or attending lecture, nor is learning automatic. It is an active process which requires instruction that elicits asking and answering questions at every turn.

Robinson (1993) adds to Novak's (1998) concept of meaningful learning by suggesting that asking and answering questions develops connections between new information and what is already known. Michael and Modell (2003) add "once meaningful learning has occurred, the learner is likely to possess multiple representations of the knowledge and skills obtained, and he or she has the ability to pick the model that most usefully supports the problem-solving process being exercised" (p.8). Creating understanding relies on the learner bringing something new to the information then shaping and organizing it to make it personalized.

According to the human constructivist philosophy, educators approach learning by appreciating an "external and knowable world" that largely depends on "an intellectually demanding struggle to construct heuristically powerful explanations through extended periods of interaction with objects, events, and other people" (Mintzes et al., 1997, p. xviii). Human constructivists view learners as "meaning-makers," and the goals of education are to build a shared meaning through "active intervention of well-prepared teachers" (Mintzes et al., 1997, p. xviii). A union of meaningful and appropriate instruction for an audience is essential to

meaningful learning and can occur when the teacher understands the audience, when the audience is receptive, and when the instruction actively engages learners.

Nursing education is moving from rote memorization toward meaningful learning that promotes connections between new information and past learning (All & Havens, 1997). Schools of nursing across the United States have been mandated to produce critical thinkers. The National League of Nursing Accrediting Committee (NLNAC) and American Association of Colleges of Nursing (AACN) require graduates to utilize critical thinking and problem solving skills which fosters meaningful learning (NLNAC, 2002). Nursing and medicine, because of the impact on other's lives, must instruct in meaningful ways so the student thinks critically in his or her professional practice (Ruth-Sahd & Tisdell, 2007).

The mandates suggest nursing schools are not instructing in ways that encourage problem solving skills and meaningful learning and thereby critical thinking. If the schools were meeting these demands, why would governing bodies go to great measures to emphasize instruction reform? Nurse graduates who cannot think critically, problem solve in a fast-paced environment, and continue learning as a lifelong endeavor pose risks to patient safety. Are nurse educators purposefully not educating students in ways that facilitate useful, applicable learning? One should think not.

Nothing is more prevalent among nurse educators than discourse on instruction tools. Whether the conversation is about how to reach students more effectively, how to communicate complex subject-matter in a more understandable way, or how to be fairer in assessment, the discussions are incessant. According to Mintzes et al. (1997), mandated curricular and instructional changes "often seem arbitrary at best and poorly conceived at worst" (p. xvii). Students are graduating with a massive quantity of knowledge rather than quality knowledge

learned through memorized material versus meaning from material. Awareness of information is had rather than understanding. In today's state of healthcare, critical thinking is integral to education and rationality and is ultimately traceable to teaching practices and tools (Keating, 2006).

Interestingly, through historical analysis of 1890 to present, one instructional tool has remained as the mainstay in nursing education, the nursing care plan. After its formal inception as the nursing case study in the late 1920s, it then progressed to the nursing care plan. Its use as a teaching tool is mentioned throughout nursing textbooks and nursing curriculum with more frequency than any other instruction tool. With its rock-solid presence, it made practical sense to look at the evolution of the care plan's creation, objectives, and components. By using the care plan, the researcher posed this instruction tool as the indicator of nursing science education. Bloom's Revised Taxonomy (Anderson et al., 2001) was used as a gauge to categorize the cognitive processes which the care plan aimed to elicit, raising the question: Is the age-old mainstay tool of nurse education encouraging meaningful learning which leads to critical thinking?

Bloom, Engelhart, Furst, Hill, and Krathwohl (1956) designate six cognitive processes: (a) remembering, (b) understanding, (c) applying, (d) analyzing, (e) evaluating, and (f) creating. He groups these six cognitive processes in order of complexity with remembering being the least complex and creating being the most complex. Learning objectives should be well-rounded and elicit all cognitive processes as Anderson et al. (2001) suggests, for they build upon one another.

To further support the analysis findings of Bloom's revised taxonomy and care plan objectives, The National Research Council (NRC) report, *How People Learn: Brain, Mind, Experience and School* findings were referenced (1998). The report was a synthesis of science

learning studies made applicable to classroom and laboratory instruction. The NRC's (1998) report was pertinent to this research project because it focused on classroom practice and instruction methods with an emphasis on Science learning. Committee members for the report were composed of individuals from the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. Nursing is considered a mixture of arts and sciences. Science and nursing science share similar educator issues. Some educators view the world as an objective reality which can isolate the learned from the real world. Other educators see the world as a subjective negotiation of meaning which can lack any foundation in factual knowledge (Mintzes et al., 1997). The NRC (1998) report mediates somewhere between the two views and holds appropriate findings for nursing science instruction.

There are three specific principles from this literature: The first principle is to address learners' *preexisting knowledge* which is important since "learning a topic does not begin with a blank slate, most learning requires transforming existing understanding" (Donovan, Bransford, & Pellegrino, 1999, p. 226). Meaningful learning as coined by Novak (1977) requires the acquisition of new material that can be related to a learner's cognitive structure and can then be anchored to prior knowledge.

Next, instruction should encourage students to experience the *processes of inquiry* so they may develop a *deep foundation of factual knowledge*. Processes of inquiry are key elements of the culture of nursing science and practice. *Inquiry* as defined by Zion, Cohen, and Amir (2007) is asking, searching, and investigating. Donovan et al. (1999) suggest, historically, inquiry was dry and mechanical and followed strict procedures to obtain a result. Without inquiry, an individual will be unable to develop the foundation of knowledge that will allow one to build.

Lastly, *metacognition* is defined as knowledge of one's own learning capacities (Donovan et al., 1999). As students reflect metacognitively on their own thinking and participation in scientific inquiry, they can begin to predict their performances on various tasks "giving them a sense of control over their learning" (Donovan et al., 1999, p. 12). Ideally, ownership of learning then occurs and contributes to self-esteem in learning and a drive for lifelong learning.

Research Paucity

As noted extensively in the second chapter of this dissertation, a paucity of studies in the science education literature on nursing science education exists. The paucity of sound evidence for nursing education practice and its use of learning tools encouraged this researcher's work. Nursing science education is not only under scrutiny for its ability to teach in ways that encourage critical thinking in a fast-paced, highly acute environment but also educators themselves who must decide if their actions coincide with what they expect from learners.

Lewenson and Hermann (2007), nurse historians, suggest the most tangible way to address the issue of validity of teaching tools is to first, clear the smoke and present a back-story validated by various sources of historical data. Brennan's (1992) study of students' experiences of developing and writing nursing care plans concluded that nursing care plans' objectives are poorly understood by educators and students. She added that a historical study of the nursing care plan's evolution throughout nursing education could help students and educators understand its' purposes. Also, further research would be needed to evaluate care plans in a way that is not only descriptive but produced pointed results that apply directly to clinical teaching (Brennan, 1992). Therefore, results from Phase one of this dissertation called for Phase two's investigation of nursing care plans with additional historical data collection and analysis, phenomenological analysis to retrieve the learner's experience of reading about care plans, and lastly application of

Bloom's revised taxonomy (Anderson et al., 2001) which produced the tangible results of cognitive processes which the nursing care plan attempted to elicit.

A combination of the paucity of studies in the science education literature on nursing science education, suggestions of respected nurse historians Lewenson and Hermann (2007), the need for descriptive yet applicable results called for by Brennen (1992), and the extensive work and validity of Benjamin Bloom's revised taxonomy (Anderson et al., 2001) justified this researcher's work.

Research Design

The third chapter described an overarching theoretical framework of historical intellect and justified the methods of research chosen. In the first phase of research, archival data regarding the phenomena of nursing education instruction and nursing student characteristics were historically collected and analyzed. Through this historical analysis, the researcher deduced that the nursing care plan was the most consistently used learning tool in nursing education with the most longevity. The initial historical narrative that resulted from this first phase was presented in the second chapter along with a review of literature on science education specific topics.

A second phase of historical research ensued with input from librarian experts and archivists on how to access historical nursing care plan data. Here, a second literature review transpired on nursing care plans from 1890 to present and time periods of significance for nursing care plan evolution were determined. From 1920s to 1940s, the nursing care plan was initially developed, and its discussion was incorporated into nursing textbooks. Secondly, 1950s to 1970s was influential as nursing began to focus on increasing patient load and interdisciplinary care of patients. Lastly, nursing care plans are still used today, yet AACN and NLNAC suggest nursing

schools are not teaching in ways that encourage meaningful learning that leads to critical thinking.

Using the determined time periods and availability of sources, historical nursing textbooks were elicited from archival sources. Further in the second phase, guided by Colaizzi's (1978) method of phenomenological data analysis, words in the textbooks regarding nursing care plans were analyzed. Significant statements and formulated meanings were aggregated into nine themes which were further aggregated into four theme clusters. From the four theme clusters, "learning objectives" became the final focus. Through learning objectives, Anderson et al. (2001) suggested we can determine what the aim of the tool and aim of the educator may be for the student's learning experience. Therefore, Bloom's revised taxonomy (Anderson et al., 2001) was applied to each learning objective where the researcher determined which cognitive processes the nursing care plan elicited.

In summary, historical data collection and analysis in Phase one led to a more specified topic of nursing care plans. Time periods of significance for nursing care plans were determined and specific textbooks from each time period were chosen. A historical narrative was constructed, and Colaizzi's (1978) method produced four theme clusters. Lastly, the theme cluster "learning objectives" which was derived from Colaizzi's (1978) method for phenomenological data analysis was analyzed with Bloom's revised taxonomy (Anderson et al., 2001).

Final Product

In Chapters four and five, results of data analysis were presented and discussed. Chapter four includes the second historical narrative which resulted from the extensive data collection and analysis. This second narrative was in addition to the historical narrative from Phase one, presented in Chapter two's literature review, which richly described the evolution of nursing care

plans. The nursing care plan originated as an intensive, single case study of one patient introduced in the 1920s to 1940s time period. The original focus of nursing care plans was to build a factual foundation of knowledge upon which the student could build. As an intensive study of one patient, the nursing care plan was used by the student to generate a comprehensive understanding of his or her role as a nurse and use knowledge gained to apply in future patient scenarios.

As healthcare changed and patient care became more complex, the care plan became a tool of communication for the interdisciplinary team. Students were able to gain insight into their larger role on the healthcare team rather than as a sole entity responsible for their patient. Lastly, present day textbooks reflected a nursing care plan that was used as an organizational tool. Nursing care plans transitioned from a detailed case study of one patient to a less detailed plan for several patients. The modern version of the care plan also served as a tool that kept students organized as patient loads mounted.

From Colaizzi's (1978) method of data analysis, nine themes emerged and were further aggregated into four theme clusters. The themes were as follows: (a) the care plan is viewed as the study of a patient; (b) the plan provides a tool for modification and, therefore, evaluation of patient behaviors; (c) each patient is treated as an individual with their care planned accordingly; (d) the plan is used as a resource to communicate among all teams; (e) the plan identifies current and past medical history; (f) the patient's personal and social history affects the physical health and care planning; (g) data collection occurs through the clinical chart; (h) the patient interview is an important skill in obtaining patient information; and (i) observing the patient leads to care plan modifications. The four aggregated theme clusters were as follows: (a) definitions of the care plan; (b) objectives of the care plan; (c) components of the care plan; (d) processes of creating the care plan.

An exhaustive description of nursing care plans ensued. In summary, the constituents of the nursing care plan followed changes of the healthcare context, which was further validated by the historical narrative. Developing, writing, and executing the nursing care plan involved a great deal of analyzing, interpreting, and synthesizing patient information and context. Similarities of data collection and data components existed between historic care plans and modern care plans, but it can be concluded that today's care plan for students was more dogmatic. Once the components of the nursing care plan were discussed, the authors tended to discuss ideas for the process of writing and carrying out the care plan. The fundamental structure of nursing care plans followed, it was essentially found that the nursing care plan experience in textbooks was an evolving journey of study and learning which led to self-discovery.

After applying Bloom's revised taxonomy (Anderson et al., 2001) to the theme cluster "learning objectives," the researcher concluded that the nursing care plan, from its initiation, aimed to elicit a spectrum of cognitive processes and was a tool that called for use of lower order and higher order intellectual behaviors. By using a combination of cognitive processes the learner experiences inquiry, establishes a foundation of factual knowledge, and builds on prior knowledge. Healthcare for today's student results in quick patient turnover and high nurse to patient ratios, therefore, time is unavailable for inquiry. Metaphorically speaking, the way in which today's educators and students use the care plan has reflected this disregard for time. Learning objectives of today's nursing care plans tend to encourage understanding which is a lower order cognitive process then jump directly to creating. Little time is taken to encourage the learning process which takes time and should be nurtured.

In conclusion, the nursing care plan was indeed found to be a valid learning tool and can serve as a proxy for science-education. When used by educators and students as it was initially

intended, the NRC's (1998) report findings of establishing a strong foundation of factual knowledge, building on prior knowledge, and incorporating metacognition into the learning process occur. What this study's findings leave open is the question of how educators are using the tool and how it is perceived and used by students.

Today's students are certainly different than earlier students. *Millennials* are defined as youth of the 21st century with unique characteristics of being technologically advanced, multi-taskers, thriving in groups, and in need of constant, quick feedback (Orrell, 2007). Implications for millennial students and their use of nursing care plans as learning tools exist and are discussed. Lastly, it has not escaped the researcher that a potential mismatch of learning tool execution, such as nursing care plans to student population, such as millennials, could have further reaching implications because of the stigma that can come with using archaic education methods. The stigma can inhibit nursing from attracting new candidates and possibly the following could occur: (a) shortage of new nurses, (b) decreased longevity of practice years, (c) decreased nursing school entries, and (d) increasing student attrition rates. Through this work, the research study served to answer the following research questions.

Research Questions

Main Question

How has the process of developing and writing nursing care plans, according to selected textbooks, historically evolved and what does this evolution or stagnation reflect about nursing science instruction?

Subquestions

1. What was the historical nursing science education and healthcare context during the initial development of nursing care plans?

2. How does the nursing care plan aim to teach students about nursing science?
3. What are the explicit cognitive processes elicited by the nursing care plan and does the encouraged use of these processes meet demands of accrediting bodies for nurse graduates?

The concepts and methods implemented in this research study are illustrated graphically through the use of a Vee diagram (Novak & Gowin, 1984) as depicted in Figure 1. The left side of the diagram represents the conceptual or thinking side of the diagram, while the right side of the diagram represents the methodological or action side of the diagram.

Definitions

Nursing care - the action that the nurse takes in fulfilling her primary function. (Kron, 1966, p. 133)

Patient care - all care for which the nurse is responsible. (Kron, 1966, p. 133)

Nursing process - organizing framework for professional nursing practice, similar to the steps used in scientific reasoning and problem solving. Includes assessing, diagnosing, planning, implementing care and evaluating nursing care that has been given. (Potter & Perry, 2009, p. 15)

Nursing diagnosis - a clinical judgment about individual, family, or community responses to actual or potential health problems or life processes. (Ackley & Ladwig, 2008, p. 2)

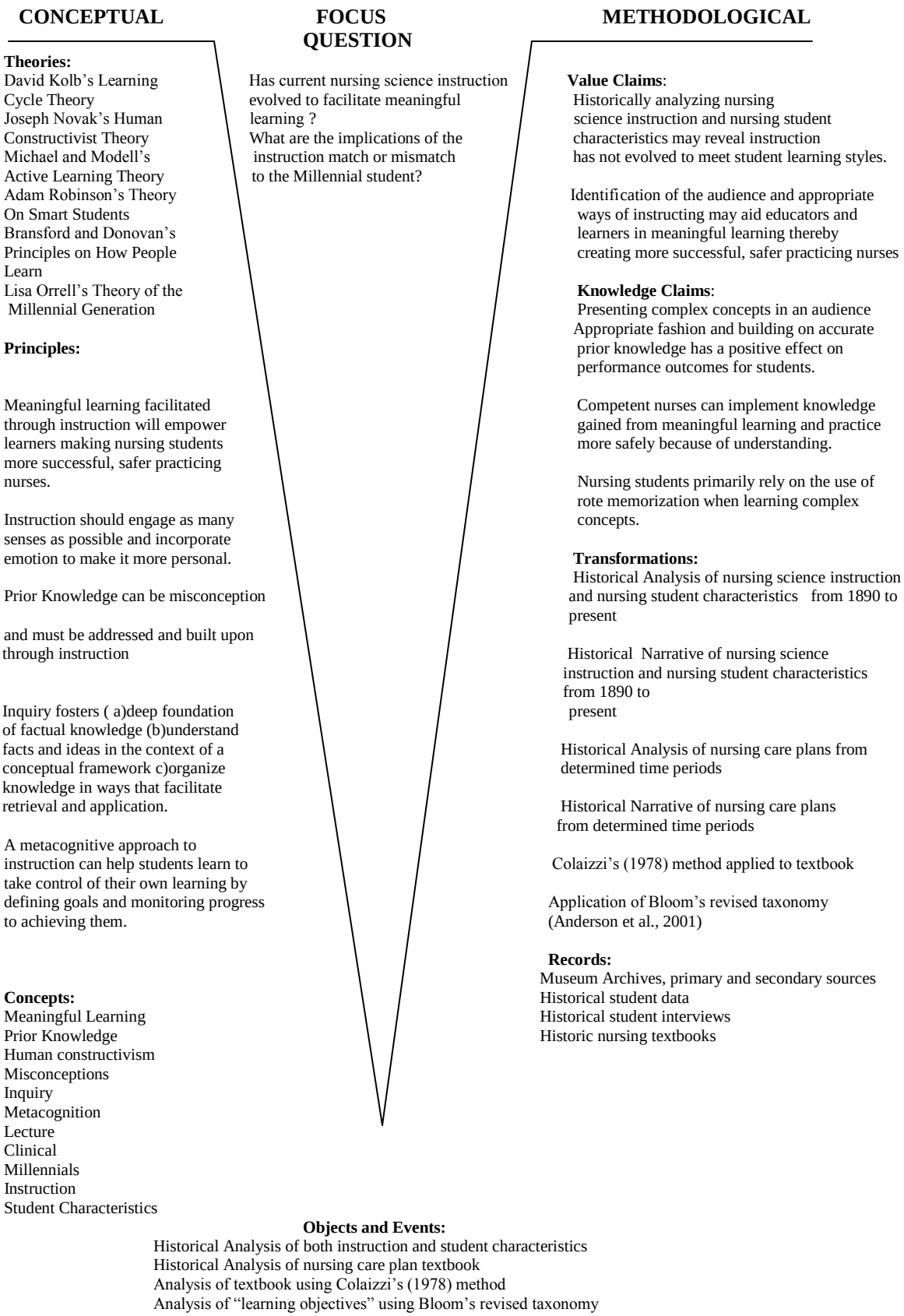


Figure 1. Vee Diagram.

Summer 2009/Fall 2009
Collect historical data, write literature review with Phase one historical narrative.
Write prospectus draft.

Summer/Fall 2009
Prepare interview questions for nursing faculty. Devise list of key informants, complete prospectus.

Spring 2010
Present and defend prospectus.

February-March 2010
Collect historical nursing textbooks.
Write second historical narrative.
Analyze textbooks with Colaizzi's method.
Apply Bloom's Revised Taxonomy.

March 2010-April 2010
Final data analysis and interpretation.
Write dissertation.

October 2010
Final defense of dissertation.

December 2010
Make graduate school-mandated corrections; graduation.

Figure 2. Research Timeline.

LITERATURE REVIEW

Nursing Science Education Context

This educational research study deals with nursing science education which is a component of an industry of health sciences. According to Fox (2007), the arena of health sciences includes a vast array of professions including but not limited to: (a) allied health professions, (b) nursing, (c), medicine (physicians), and (d) dentistry. Primarily, research on instruction that elicits higher order cognitive processes and makes learning meaningful for the student has been in the area of elementary and high school education. This study falls under the venue of higher education, specifically in the area of the historical and current use of nursing care plan development and writing as an instructional tool. As discussed in the historical analysis, nursing instruction and methods may include: (a) lecture, (b) clinical, (c) laboratory, (d) nursing care plans and, (e) patient simulations.

Researcher Intent

The researcher in this study is a nursing science educator who teaches and gives clinical to beginning and advanced students in the areas of nursing, specifically health assessment, pathophysiology, and adult health education. Her background in nursing science, as a practicing nurse and Nurse Practitioner, and science education allows her to consider both the educational and scientific aspects of this study. Her Ph.D. curriculum coursework has taught her that anyone is capable of learning complex subject matter, and learning is an active process between teacher and learner that is aided by the activities and experiences teachers provide (Anderson et al., 2001).

As a result, these connections have lead her interest in this study. She has examined theories of learning, a benchmark report on how people learn in science, past nursing instruction, past

nursing student characteristics, and accrediting agencies standards regarding instruction. Such an examination required a review of theories of learning and reports that have an emphasis on science learning. Also, the examination required an historical analysis of nursing education which was partially shaped by historical student characteristics. Historical analysis of instruction tools was also deemed necessary as accrediting agencies for schools of nursing have called in question learning methods used by nurse educators. Accrediting officials are concerned about the abilities of nursing graduates to think critically in practice. This inability to think critically could possibly be linked to stagnant educational methods.

This study also devoted itself to understand the gap between accrediting officials supposition that nurse educators are not educating students in meaningful ways, therefore students lack the ability to think critically about patient encounters. The researcher in this study wished to promote improvement in instruction for the area of nursing. She hoped that the findings of her study may be helpful in providing sound evidence for the continued use of nursing care plans or propose ideas for modification to the nursing care plan if it is deemed an insufficient tool in teaching principles of nursing science. With this in mind, the researcher suggested that every improvement in instruction will lead to an increased quality of care in the clinical setting. This further assured that graduating students are entering the profession at a competent level of practice and are able to fulfill their crucial role in maintaining quality patient care as a part of today's dynamic and essential health care team.

Nurse Education Background

Critical Thinking

The researcher has devoted her work to closing the gap of misunderstanding between accrediting agencies demand for nursing schools to teach in ways that facilitate critical thinking

and nursing schools continuing to rely on historic instruction tools. First, a definition of critical thinking is in order. An abundance of efforts have been made to define critical thinking (Benner, 1984; Di Vito-Thomas, 2005; Facione, 1990; Potter & Perry, 2009; Settersten & Lauer, 2004). Critical thinking is not a simple step-by-step, linear process that one learns overnight. It is a process acquired by learners only through experience, commitment, and an active curiosity toward learning (Potter & Perry, 2009).

Most definitions of critical thinking emphasize logic and reasoning (Di Vito-Thomas, 2005). Central to professional nursing practice, critical thinking allows one to test and refine nursing approaches, to learn from successes and failures, and to apply new knowledge. For the purposes of this dissertation study, the definition of *critical thinking* was "the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from observation, experience, reflection, reasoning, or communication" (Keating, 2006, p. 420). The researcher uses this formal definition throughout while recognizing the connection of meaningful learning to critical thinking. According to Mintzes et al., (1997) *meaningful learning* is learning we have constructed from a union of our actions, feelings and cognitive thoughts. The learning then becomes knowledge we have control over which creates a sense of power. In turn, those students who develop a "well-organized knowledge structure" are meaningful learners (Mintzes et al., 1997, p. 18). Further in this "union" of cognitive thoughts, educators look to connect knowledge and theory with practice. To develop critical thinking skills, it is important to learn how to connect theoretical knowledge with clinical practice. A student's ability to make sense of what they have learned in the classroom, the textbook, or through peer dialogue and then apply it during patient care is the

genuine challenge of nursing education. Due to this challenge, it is essential to use learning approaches that assist students in developing and improving critical thinking skills.

Meaningful learning is desirable in nursing education because meaningful learning inculcates the ability to think critically. One could say meaningful learning leads to critical thinking, and/or meaningful learning is critical thinking. For the purposes of this study and in conjunction with Novak and Keating's work, meaningful learning was viewed as learning that leads to critical thinking, the fundamental nursing process is imperative for critical thinking.

Nursing Process

As a beginning nurse, it is important to learn the steps of the nursing process and to incorporate the elements of critical thinking. The two processes go hand-in-hand in making quality decisions about patient care (Potter & Perry, 2009). The purpose of the nursing process is to diagnose and treat human responses to actual or potential health problems (American Nurses Association, 2003). Use of the nursing process allows nurses to help clients meet agreed-upon outcomes for better health. Its format is unique to the discipline of nursing and provides a common language and process for nurses to "think through" patients' clinical problems (Kataoka-Yahiro & Saylor, 1994).

The nursing process is a five-step clinical decision-making approach that includes assessment, diagnosis, planning, implementation, and evaluation as shown in Figure 3. The nursing process begins when students assess their patients, assessment can be observing, performing a physical examination, or interviewing the patient. These are only examples and assessment can be other techniques as well. After an assessment, the student forms a nursing diagnosis based upon their findings. A good understanding of the patient and the patient's problem is necessary so planning

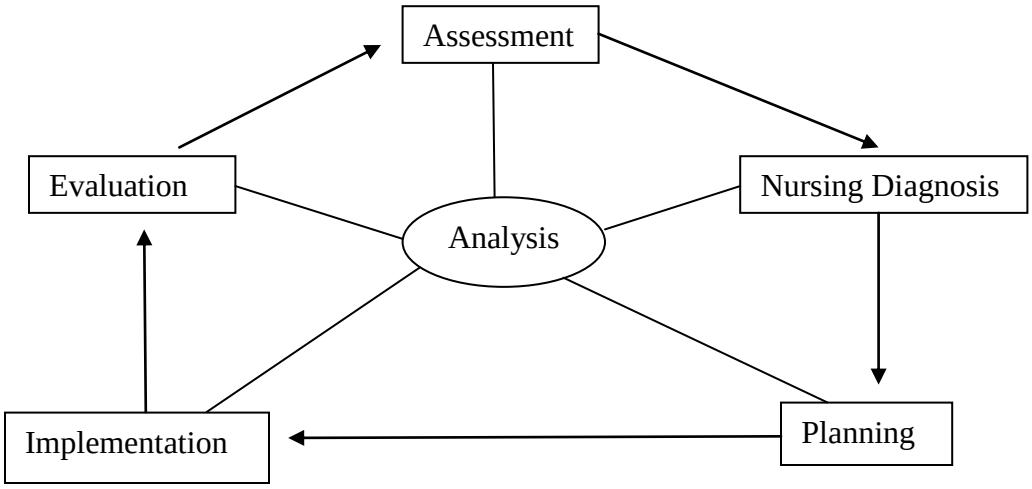


Figure 3. Five-step nursing process model.
Note. The five-step nursing process model is from Potter and Perry (2009).

care can occur. Once appropriate care has been planned, it is implemented and evaluated. Throughout the entire nursing process, students should analyze their steps. The nursing process is complex and is an example of why becoming a nurse is no small feat and educating nurses is a responsibility not taken lightly by educators (Di Vito-Thomas, 2005). To understand some of the challenges of educating nurses, the premises of the curriculum must be explored. In the next section, nursing's liberal education will be discussed.

Nursing Science

Nursing is the study of maintenance, promotion, and restoration of health which is guided through the provision of health care services. The nursing process is a cognitive activity that requires both critical and creative thinking and it serves as the basis for providing nursing care (Chitty & Black, 2007). Nursing education formally began in the late 1800s and since that time, teaching nursing students the complexities of nursing has been debated by nurse scholars. Nursing education has challenged its image of a "tradition-bound, hands-on vocation," and

through research and mandates by several nursing school accreditation bodies, a distinctive base of nursing knowledge with a context of a well-rounded arts and science context has been established (Hermann, 2004).

Naturally, changes in curriculum affect how students are instructed. The American Academy of Colleges of Nursing (AACN) is an influential governing force for curricular changes. The AACN maintains relationships with a broad representation of stakeholders, internal and external to nursing, so they may continue setting standards that directly meet the transforming healthcare system and how healthcare professionals are educated (AACN, 2008). Nursing schools across the country look to accrediting bodies such as the AACN for guidance in the education of nursing students.

The AACN speaks of *essentials*, which are ideal outcomes that a Baccalaureate of Science in Nursing (BSN) graduate should reach upon completion of nursing school. An example of an essential, tilted *Essential I*, focuses on the graduate's background in a "liberal education" (AACN, 2008, p. 10). A *liberal education* is defined by the Association of American Colleges and Universities (AAC & U) as:

> one that intentionally fosters, across multiple fields of study, wide-ranging knowledge of science, cultures, and society; high-level intellectual and practical skills; an active commitment to personal and social responsibility; and the demonstrated ability to apply learning to complex problems and challenges. (AAC & U, 2007, p.4)

Arts and sciences constitute a liberal education. The sciences include: (a) physical sciences, (b) life sciences, (c) mathematical sciences, (d) social sciences, and (e) the arts including fine arts, performing arts, and humanities (AACN, 2008). Hermann (2004) suggests through a liberal

education of humanities, social sciences and natural sciences, the learner becomes attuned to working in a way that is socially valued and that provides civic leadership in society.

Although a liberal education is stressed in nursing education, research and professional literature more often discuss the "art of nursing" rather than teaching the science of nursing. By discussing the art of nursing, no real emphasis is placed on how to teach nursing. The art of nursing is a learned behavior that is partially instinctual, partially cultural, and partially experience-based (Watson, 1985). Yet, sciences are critical in nursing education to aid the nurse in understanding health as well as disease processes. Science provides a base of factual knowledge on which graduates can clinically reason and have the ability to keep pace with changes driven by research and new technology (Carnegie Foundation, in press). Because of the incongruence of the approach to nursing science education, very little research is directed at teaching the science of nursing.

The value of science in nursing has been a point of contention and discussion as early as the mid 19th century. Florence Nightingale spoke of the value for science and research in nursing as she "accumulated and analyzed complex information about conditions during the Crimean War," yet she wrote of only technical skills the nurse should perform (University of Maryland, IIIB, 1999). From her data collection, Nightingale was able to discuss infection control and disease prevention to nurses in training in a way that was understandable and effective, but because of the role of women and the assumptions they should not be educated, the value of her data collection was not encouraged in nurse training.

Unfortunately, as monumental as Florence Nightingale's work was acclaimed to be, it was a long period of time before nursing schools encouraged students to question and to analyze their practice rather than simply obey orders and be rigidly disciplined. Florence Nightingale

understood the value of science as well as the ability to apply scientific knowledge as suggested in this quotation, "Pathology teaches the harm that disease has done. But it teaches nothing more..Nothing but observation and experience will teach us the ways to maintain or to bring back the state of health" (Nightingale, 1860, p. 109). Her hope was both to understand and to apply science that would produce a competent graduate nurse who could be a lifelong learner.

Nursing schools across the country direct the AACN's essentials into programs of study as shown in Table 1. These various programs of study have similar core courses such as Biology, Chemistry, Nutrition, and Adult Health education, yet each curricula reveals the institution's specific uniqueness. For example, Our Lady of the Lake College integrates Religion to exemplify the Catholic tradition of the school. Georgetown University incorporates Genomics which emphasizes the strong genetics research department. With a broad spectrum of sciences and arts, expectations of the nursing student are high. To meet the outcomes of AACN and, thereby, the community, effective instruction within all courses is imperative.

Content of Nursing Courses

Nursing school curriculum melds arts and sciences by prescribing specific courses. As demonstrated in Table 1, some nursing specific courses across the United States tend to be titled: Pathophysiology, Health Assessment, Care of Adults, Pharmacology, Family Health, and Nursing Research (GTU, 2008; OLOLC, 2009; USF, 2009). The content of these courses is relatively stable across the United States and includes: (a) theories of human growth and development, (b) principles of basic nursing care, (c) integration of pathophysiology, (d) palliative and end-of-life care, (e) genetics, (f) nutrition, and (g) bioterrorism (AACN, 2008). What is different about the complex course content is how the content is delivered. Some

nursing schools are valued for the on-line, self-study method of instruction while other nursing schools contain a purely traditional format of lecture and clinical.

While having options for education supports today's diverse student, the lack of consensus on how nursing students should be instructed on the complex nature of nursing is daunting. Without effective instruction, the student begins to rely on learning techniques such as rote memorization rather than comprehension simply to survive the program (Donovan et al., 1999). Effective instruction will ensure the livelihood of nursing students and nursing schools. However, as mentioned, very little research addresses education of the nursing student. An historical analysis of nursing students and nursing science instruction revealed that students have changed over the previous 100 years.

Current Methods of Instruction

As viewed by this researcher, instruction has changed minimally over the first 150 years of the profession from 1800 to 1950, when instruction operated from a model developed for the industrial nation. Specifically, early instruction evolved around two modes. After nursing migrated away from a self-trained trade to formal hospital-based training, theory delivered in a lecture and practical experience referred to as clinical were the two guiding instruction methods (Chitty & Black, 2007). With Nightingale's training manual as a curricular guide to formal training of nurses, nursing care plans were developed as a linear, formulaic instruction tool for grading students on their ability to synthesize the nursing process related to patient care (Preusser, 2009). Almost 200 years later, a review of the literature suggests some adaptations have occurred in nursing instruction and in the use of instruction tools such as the care plan.

Table 1.

BSN Programs of Study of University of San Francisco (USF), Georgetown University (GTU) and Our Lady of the Lake College (OLOLC)

	Freshman Year	Sophomore Year	Junior Year	Senior Year
USF	Human Anatomy	Pathophysiology	Nursing Therapeutics II	Nursing Therapeutics III
	Physiology	Nutrition	Principles of Practice I	Clinical Lab V and VI
	Microbiology	Foundations of Professional Practice	Restoration of Health	Leadership in Managed Care
	Psychology	Health Assessment I,II	Nursing Research	Senior Seminar
		Clinical Lab I and II	Family Health I, II	NCLEX Review
		Pharmacology	Clinical Lab III, IV	
		Nursing Therapeutics		
GTU	Human Biology	Health Assessment II	Mental Health	Public Health
	Biochemistry	Nutrition	Care of Adults	Complex Problems
	Foundations of Practice	Pathophysiology	Nursing Research	Ethics
	First Year Colloquium	Health Promotion/Disease Prevention	Microbiology	Care of Vulnerable Populations
	Health Assessment I	Human Growth and Development	Health Care of Women	Transitions
		Pharmacology	Care of Children	
		Genomics	Health Care Systems	
OLOLC	Introduction to College Education	Pharmacology	Sociology	Research
	English I and II	Foundations of Nursing Practice	Speech	Pathopyhsiology
	College Algebra	Adult Health I, II, III	Statistics	Health Assessment
	Chemistry I	Mental Health	World History	Leadership
	Human Anatomy and Physiology	Care of Children and Families	Morals and Ethics in Healthcare	Community Nursing
	Microbiology Lecture/Lab	Care of Women and Neonates	Humanities Elective	Nursing in the 21st Century
	Psychology		Arts and Sciences	
	Theology			

Lecture

Lecture is the most common form of instruction where theory content is verbally delivered from instructor to student. Robinson (1993) suggests the purpose of lecture is to extract the important information needed to process later for understanding of theoretical information. Some disadvantages of the in-class lecture are the coherency of the lecturer, bouncing of topics, and speaking in monologue. Students have little control over a lecture environment as they follow the pace of the lecturer. These aspects of the lecture create a passive role for the student which can make it difficult to concentrate and focus. On the other hand, it allows the teacher to indicate what is important for the particular course. Lectures are more beneficial than textbook information as the educator has a sense of what students do and do not understand. Lectures can then be tailored to fit these needs and questions about subjects (Robinson, 1993).

Theory delivered in a lecture seems to be an inescapable component of the nursing student learning**.** However, the student of the new millennium can no longer depend on rote memorization, which generally goes hand in hand with lecture, to make the transition from theory to clinical practice (Black, Green, Chapin, & Owens, 2000). One study evaluated approaches to learning to create more understanding. Frerichs (1970) offers these thoughts about generalizations in nursing education:

> The content of nursing is greatly increasing in scope and complexity. Explaining this expanding content so that a nursing student can efficiently utilize this knowledge is a central concern of nursing educators. If the facts and concepts included in nursing are to be understood, students must be taught how to formulate generalizations that will clarify and organize relevant knowledge. Structuring generalizations based on scientific concepts is not learned by 'osmosis' or by chance. Students must be taught

> the elements of useful generalizations and how generalized knowledge is transferred to clinical situations. This is the key to effective instruction of the knowledge explosion in the nursing field." (p.36)

Frerich (1970) suggests that generalizations should be built upon concepts students currently understand. Other suggestions for learners are: (a) using metaphors, (b) lessening time periods of lecture, (c) arranging seating in the lecture hall, and (d) decreasing the number of students in lecture to allow for more one-on-one interaction (Clark & Caffarella, 1999; Duldt-Battey, 1997; Gibson, 2009). These suggestions are from general education literature and apply to any learner regardless of the subject-matter.

Implications for meaningful learning are far reaching. One of the most crucial outcomes of meaningful learning for nursing is that the learner has the ability to use or apply knowledge to solve problems, which can be easily retrieved to solve problems. A grave concern of nurse educators is the ability of students to transfer theoretical information delivered in a lecture format to the practical, clinical setting. There are questions about the extent to which what has been learned can be applied in, or transferred to, a context different from the one in which it was originally taught (Michael & Modell, 2003). Frerich (1970) says, "studies show that transfer of learning is not automatic, that the mere possession of information, skills, and ideas will not necessarily assure application to appropriate clinical situations. Often the only transfer that occurs is a transfer of factual information used by the students to gain better marks on exams" (p. 35). Exams are a critical component of the education process but in nursing the ability to transfer information to clinical is critical because of the impact on others' lives.

An adaptation to the face-to-face lecture is web-based instruction. Web-based instruction has been utilized to target those nurses who are unable to attend on-campus programs because of

distance, lack of time, busy schedules, or family obligations. Blackboard® is an example of a web-based instruction host which provides a secure environment in which to post information, documents, assignments, and announcements. For educators, the use of web-based instruction allows for synchronous, real-time activities such as chat rooms and asynchronous delayed activities such as discussion boards and a digital drop box that can be used for student-to-instructor and instructor-to-student document transfer. A grade book is also provided where items can be weighted and final grades computed automatically (Collins, 2005; Servonsky, Daniels, & Davis, 2005). Blackboard and other web-based programs help students get faster feedback, learn where they stand, collaborate with their peers, and personalize their learning to fit their own needs (Pascopella, 2005).

In 2008, Daley, Spalla, Arndt, and Warnes reported overall highly positive experiences of a teaching-learning strategy using videoconferencing and web-based conferencing with BSN students. Videoconferencing and web-based conferencing allowed for expansion of the walls of the local learning community and promoted development of partnerships among peers in other locations. The students were able to exchange perspectives and gain a more global understanding of nursing care. Connecting students and educators via videoconferencing and web-based conferencing is advantageous "as it reaches across distance, connects diverse student groups and provides a rich visual environment and electronic 'field trips' " (Daley et al., 2008, p. 78).

By opening the classroom beyond the university walls and exposing students to diversity in nursing programs, educators can help students move from authority-dependent learning to self-authorship, "from guided learners to responsible change agents in a safe practice setting" (Daley et al., 2008, p. 79). A shortcoming of the study was that it did not have a longitudinal component

that would follow the students into the clinical setting or after graduation to determine the effectiveness of the on-line instruction. Certainly, technology and the increased need for flexibility with instruction makes web-based instruction a viable option to in-class lecture, but few, if any studies, have evaluated whether this instruction method is effective in nursing education.

Clinical

The goal of clinical is to aid the student in integrating theory and practice. Ideally, clinical would help the student synthesize factual knowledge then transfer knowledge to nursing practice. Michael and Modell (2003) assert that the "richness" of the learning seems to affect the learning that occurs. They add that, "The richer the learning context the more opportunity the learner will have to link or associate what he is learning with knowledge and skills he has already mastered" (p.9). For nursing students, the context goes beyond the classroom and into the hospital unit where the part of nursing instruction termed clinical occurs.

Clinical is the term used to describe the eight to twelve hour block within a day that the nursing student is assigned to a patient. During this clinical time, the student is responsible for various technical skills, critical thinking skills, and any other behavior required to provide full care to the assigned patient while the nursing educator supervisors. The goal of this experience is to provide opportunities for building clinical cognitive, management, and evaluation skills (AACN, 2008).

Clinical has been a part of nursing instruction since the beginning of nurse education and the support for this mode of instruction is sound (Sharif & Masoumi, 2005). For example, David Kolb's *Experiential Learning* provides a model of the learning cycle. His cycle is steeped in the work of Dewey, Piaget, and Lewin. Essentially, deep learning occurs from experience,

reflection, abstraction, and active testing (Kolb, 1984). The entire learning cycle is based on the proposal that learning originates in concrete experience. In terms of Kolb's learning cycle, clinical could be viewed as a concrete experience. Generally, clinical is attached to at least one, often two courses per semester and is carried out as a course requirement without monetary compensation. The clinical occurs at a hospital, clinic, or outpatient facility. To be completed successfully, the student must show competence in the nursing process, verbal, and written communication appropriate for their level of schooling.

In preparation for clinical, students spend an additional several hours familiarizing themselves with patients' charts and related textbook information. This time spent is termed *pre-clinical*. In the past, pre-clinical did not exist because students lived on campus and were in the hospital daily. After the clinical day is complete, students intricately detail nursing care plans which reflect the reasoning for their nursing interventions performed throughout the day (Leki, 2003).

Students feel anxiety about clinical because of pressure perceived from educators to accurately assess a patient and complete a nursing care plan for the first time. Once anxieties have been settled, numerous studies report the actual time spent in clinical was deemed as the best learning experience in nursing school by students because it allowed for hands on experience (Birkenmaier, Behrman, & Berg-Weger, 2005; Pensivy, 1977; Sharif & Masoumi, 2005). Most importantly students felt they were finally able to understand what they will be doing as a nurse graduate. Although clinical has proven an effective instruction method through research it is only one aspect of the nursing school process.

Patient Simulation

Students are not always afforded the opportunity to practice all nursing skills taught in nursing school before graduation. On a busy hospital unit, students will not always get the

opportunity to perform patient care or some patients may need little interventions from students. Regardless of the situation, a major complaint from students is not being able to address all practical and applied nursing skills during clinical (Sharif & Masoumi, 2005). As a result, to provide more hands-on practice, laboratory simulation has been incorporated into many nursing schools across the country.

Simulation instruction is a new technique where a robotic model can exhibit human characteristics such as blood pressure, venipuncture capabilities, heart arrhythmias, and certain clinical situations (Monti, Wren, Haas, & Lupien, 1998; Nehring, Ellix, & Lashley, 2001). The AACN (2008) suggests that working with these robotic models can "augment clinical learning because simulation experiences are complementary to direct care opportunities essential to assuming the role of the professional nurse" (p. 4). To show their support, the AACN has participated in research studies with Laerdal® Medical, a major simulator manufacturer, to gauge the effectiveness of simulation in nursing education.

Sharif and Masoumi (2005) reported the use of simulators in the nursing school eased anxieties of students and increased competence of skills. Rather than students completing nursing school with few opportunities to practice skills, they were able to graduate having utilized as many skills as they felt necessary. One drawback to simulator use was that students would rely on simulator practice and no longer seek the actual experience of practicing skills on real patients (Sharif & Masoumi, 2005). Simulators are an excellent example of a technological component fused with an older, traditional instruction method such as the clinical. Research is mounting on the effectiveness of simulators as instruction tools but it is still unclear on the actual effectiveness.

Nursing Care Plans

A great deal of nursing education revolves around a student's ability to synthesize the nursing process and support the process with current research. For example, a student who is assigned to a patient with an infection should understand the need to monitor a patient's hydration status, help the patient remain afebrile, and provide comfort measures. To show competence, the student should know the rationale for performing these interventions. This example also reveals part of the nursing process. The *nursing process* is the nurse's ability to address specific problems, to set goals, to plan appropriate interventions, and to evaluate the effectiveness of the care implemented (Ackley & Ladwig, 2008). The written format for this process is called a *nursing care plan* which is prepared in collaboration with the patient and/or family, as well as with other disciplines. Nursing students create a plan of care for each of their assigned patients in the clinical setting. The nursing care plan has become an exceedingly linear, step-by-step model that has guided nursing practice for almost a century and continues to guide practice today (Ackley & Ladwig, 2008). For the duration of its existence, many educators believe nursing care plans' content has changed very little and they continue to be the mainstay instruction tool for representing the nursing process.

Black et al., (2000) found that the time involved with the production of the care plan increases student anxiety prior to the clinical experience because of its potential length and complexity while the "faculty found the care plan ineffective in reinforcing critical concepts in the clinical setting." (p. 6). Wilgis and McConnell (2008) found with "the use of a traditional care plan novice graduate nurses were often deficient in the critical thinking skills needed to assess and handle patient problems and life-threatening situations" (p. 119). However, developing and

writing nursing care plans have not been truly assessed for its ability to encourage critical thinking.

Quite possibly nursing care plans can promote the synthesis and application of related knowledge to specific patient care situations. Carper (1978) believed the use of the nursing care plan results in acquisition of empirical knowledge. Yet, there have been no published research studies which historically evaluate the development of written nursing care plans. Although concept mapping is now being used in conjunction with care planning, little evidence supports the use of developing and writing nursing care plans whether in a linear format or through a concept map.

Novak's (1998) concept map was initially developed as a research tool to evaluate how children understand concepts and how their understanding changes with different instructional approaches. Its use was so invaluable that Novak authored a book on meaningful learning and concept maps. "This book is intended for anyone with a passion for education" is how Novak (1998) begins. According to Novak (1998), meaningful learning is learning one has constructed from a union of his or her actions, feelings and cognitive thoughts, it then becomes knowledge he or she has control over which creates a sense of power. Novak believes the use of concept maps gives the student some power as it can been done with great creativity and subjectivity rather than in a dry, mechanical, prescribed process.

By representing information as a picture, the student is not just being creative but taking a critical step in building understanding. Robinson (1993) adds that "information has form and structure; to understand information, you must "see" this form" (p. 107). Novak (1998) also suggests a large portion of learning occurs visually. Zull (2002) reinforces the importance of visual representation as he concludes that a great deal of the brain is dedicated to physical

relationships in space. Therefore "recognizing the ability of the brain to create and remember images gives ideas about using images to teach a subject" (Zull, 2002, p. 249). A concept map flows from top to bottom in a descending hierarchy of significance. Each concept is encircled then connected to another concept with linking words. Since an amazing amount of creativity and synthesis is needed to construct a concept map it becomes an effective tool for instruction and evaluation. Concept map construction is a learned process, and Novak (1998) suggests students find constructing a concept map taps into all ways of knowing. Sketching the map is a way of connecting prior knowledge with new knowledge in a non-arbitrary way. Representing knowledge visually, concept maps are tools for learning and evaluating.

In contrast to the linear, formulaic care plan, the concept map is a nonlinear process that forces the nursing student to identify actual and potential client problems, and develop appropriate nursing interventions. Concept maps have been cited as an innovative way to teach students about the nursing process and develop critical thinking skills in order to actualize clinical scholarship and promote meaningful learning (Abel & Freeze, 2006; Black et al., 2000; Wilgis & McConnell, 2008). Through these visual aids, students demonstrate their creativity in connecting patients with diagnoses, medicines, and interventions. Most important in nursing education is for the student nurse to get a sense of why they are carrying out nursing interventions. These interventions typically stem from physiology, without a clear understanding of the how and why, nurses risk endangering patients (Abel & Freeze, 2006). Wilgis and McConnell (2008) suggest "it would be the greatest disservice to the students to not be fairly evaluated and given the opportunity for meaningful, lasting learning" (p. 120). Concept maps indirectly encourage lifelong learning as they implant a desire to understand and own knowledge. Since instruction can facilitate meaningful learning, one must begin to assess what has

traditionally been done with instruction and possibly alter it to make it more effective and useful for today's learner.

Vee Diagram

Going a step further in using visual representation is the Vee Diagram. Its use in nursing school instruction is not cited in the literature. With similar attributes to the concept map, Bob Gowin's Vee Diagram is a tool used in learning and evaluating and is particularly useful in sketching projects or events (Gowin & Alvarez, 2005). A student's project, for example, is seen more simplistically as the diagram aligns each stage with a thought process. Along the left side of a Vee diagram, the guiding forces and assumptions of the event are explicitly laid out. Often a concept map is embedded in the diagram to map out principles of the event (Novak & Gowin, 1984). Along the right side of the diagram is the practical or "doing" part of the event. Here, value claims and knowledge claims are synthesized from the data collected. Transformations are the ways data can/will be represented (Gowin & Alvarez, 2005). As with the concept map, the Vee diagram should first be used for learning then evaluating so the student can gain comfort and confidence with representing knowledge in such a profound manner (Novak, 1998).

Nursing has used linear and prescriptive ways of knowing and problem solving, but nursing scholars offer multiple modes to produce meaningful learning. By using a tool that engages a variety of senses, learning goes from a passive process to an active one which leads to more meaningful learning.

Constructivism

After establishing both a baseline of nurse education and the major components, one must discuss theories of learning to build on our previous discussion of nursing education. A wealth of constructivism literature exists. Piaget and his followers are heralded with the advent of the

constructivist theory of learning. Theorists have put twists on constructivism, but all hold several basic assumptions. A common tenet of constructivism theories is that knowledge is built rather than transmitted from teacher to learner, that students have prior knowledge, some of which are misconceptions, and that students can learn at least three different "things" which are: (a) declarative knowledge, (b) procedural knowledge, and (c) psychomotor skills (Michael & Modell, 2003; Mintzes et al., 1997). According to Piaget (1929), learners build on previous knowledge gained by personal interpretations, while striving to make sense of experiences. Keating (2006) adds that, "the paradigm of constructivism supports the view that knowledge constructs (structures) are amendable to change as new learning contributes knowledge to the existing foundation and connections" (p. 66). Constructivism supports the developmental concept of learning because not all learning can be overtly observed or manipulated directly when caring is the goal of nursing.

Learning increases daily for nurses through confronting an individual patient's unique problems, through changes in technology, and through competing societal demands (Bevis & Watson, 2000). Benjamin Bloom's (1964) work supports constructing meaning and he believes in order to learn in a complex setting of technology and society, a move away from, "passive views of learning toward more cognitive and constructivist perspectives" is warranted (p.38). Emphasis by educators to students about what learners know and how they think about what they know needs to occur continuously.

Teacher and Learner

For any relationship to thrive, a mutual understanding and respect for one another is a must. The relationship of teacher and learner is no exception. Geertshuis et al., (2002) offers that, "the learner is responsible for the learning that occurs and the teacher helps the learner learn.

Learning does not exist in a social vacuum occupied only by the trainer and a learner. Learning takes place within complex social systems populated by a multiplicity of factors all influencing learning and performance outcomes" (p. 168). In understanding roles, teachers spend less time trying to transfer ideas to students and become more inclined to find out how they can aid students to build their own experiences (Zull, 2002).

Ruth-Sahd and Tisdell (2007) suggest nurse educators can find ways to encourage a balance among intuition, science, and other ways of knowing. One must recognize that what is taught in the classroom reveals itself in practice and that the demands of practice determines what is necessary to include in the curriculum. Zull contributes that, "more energy can then be put forth in understanding the learner and have deeper respect for him/her as an independent creature" (p. 248). Yet, often times student and teacher are disconnected and do not understand one another's motive. The educator is responsible for his or her actions and the learner, as a unique individual, is also responsible for his or her actions.

Individual as Learner

Clark and Caffarella (1999) have found that much research has traditionally focused on the psychological factors that affect adult learning, development, and cognition. Current research is focusing on sociocultural factors such as gender, race, class, and sexual orientation that affect learning. Adult learners in nursing education settings utilize many different ways of knowing in an attempt to make meaning, including the cognitive or rational, the affective, the somatic, and the spiritual or symbolic domain (Ruth-Sahd & Tisdell, 2007). Daley et al.'s (2001) study examined how professionals make knowledge meaningful. They hypothesized that adult learners created meaning from knowledge if they "had some feeling about it (knowledge) and could

directly apply it (knowledge) in their practice" (p.79). The focus on sociocultural factors may be critical to ensure the effectiveness of instruction for a diverse group of nursing students.

Robinson (1993) focuses less on student sociocultural factors and suggests at some point smart students learned how to learn, learned how to have "different skills, goals, habits, priorities, and strategies because they see school, the learning process and even themselves differently" (p. 12). He adds that smart students share some common beliefs about school. For instance, no one can teach an individual as well as that individual can teach him or herself. Also, making mistakes is the price one pays for learning and improving so the point is to think and not simply to answer. Because of the struggle learning can present, Robinson (1993) suggests, "Few things are as potentially difficult, frustrating, or frightening as genuine learning, yet nothing is so rewarding and empowering" (p. 13). Students should want to learn to please themselves, not others.

Bloom's Revised Taxonomy

Benjamin Bloom's revised taxonomy (Anderson et al., 2001) of the cognitive domain addresses intellectual skills and types of knowledge. A hierarchy develops as the student is able first to acquire and remember information and then restate the information (Keating, 2006). According to Anderson el al., (2001), two of the most important educational goals are to promote retention and to promote transfer, which, when it occurs, indicates meaningful learning. When a student has the ability to remember material at some later time in much the same way as it was presented during instruction, retention has occurred. Using new subject-matter to solve new problems, to answer new questions, or to facilitate learning, one transfers (Mayer & Wittrock, 1996). In short, retention requires that students remember what they have learned where as

transfer requires students not only to remember but also to make sense of and be able to use what they have learned.

Educational objectives for promoting retention are fairly easy to construct. Educators have more difficulty in formulating, teaching, and assessing objectives aimed at promoting transfer (Baxter, Elder, & Glaser, 1996). Bloom's revised taxonomy is intended to help broaden the typical set of educational objectives to include those aimed at promoting transfer (Anderson et al., 2001). Bloom's revised taxonomy of the cognitive domain designates six cognitive processes: (a) creating, (b), evaluating, (c) analyzing, (d) applying, (e) understanding, and (f) remembering (Anderson et al., 2001). One can achieve true mastery of concepts, acculturation to critical thinking, and meaningful learning when using teaching tools that elicit retention and transfer.

Knowledge dimensions of Bloom's revised taxonomy, which are not this study's focus, are: (a) factual knowledge, (b) conceptual knowledge, (c) procedural knowledge, and (d) metacognitive knowledge as thinking, particularly critical thinking is the emphasis for most nursing school curriculums (AACN, 2008; Anderson et al., 2001). This suggestion was made by Anderson et al., (2001) for using the taxonomy, "like the original framework, our revision will be most beneficial to those who adapt it to their purposes" (p. 259). Using a taxonomy as a form for classifying, categorizing, clarifying, and defining knowledge appeals to educators because it provides a framework for analyzing educational objectives.

National Research Council Report

Findings of the NRC (1998) report further support what is known about learning from a constructivist lens. The main principles that evolved from the report are consistent with the purposes of using Bloom's revised taxonomy which is to understand what the learner does in the

process of using knowledge. *How People Learn: Brain, Mind, Experience, and School* was released in 1998 by the National Research Council (NRC) and funded by the U.S. Department of Education's Office of Educational Research and Improvement (OERI), as stated in the introduction, the report "synthesizes research on human learning" (p. 1). Donovan et al., (1999) suggest its main principles are:

- students come to the classroom with preconceptions about how the world works. If their initial understanding is not engaged, they may fail to grasp the new concepts and information that are taught, or they may learn them for purposes of a test but revert to their preconceptions outside the classroom;
- to develop competence in an area of inquiry, students must: (a) have a deep foundation of factual knowledge, (b) understand facts and ideas in the context of a conceptual framework and (c) organize knowledge in ways that facilitate retrieval and application;
- a "metacognitive" approach to instruction can help students learn to take control of their own learning by defining learning goals and monitoring their progress in achieving them. (p.10-13)

From these early findings, members of the research committee declared change was on the horizon in Science education, and typical ways of learning in the past focused on *what* students know rather than *how* they know (Donovan et al., 1999). Previous ways of learning are not stimulating for students and create great disinterest in education. For example, the *what* of learning traditionally included how accurate a person could recollect definitions and past discoveries. Past learning valued the rigor of performing the scientific method with strict procedures which allowed minimal inquiry.

After the tremendous response to *How People Learn: Brain, Mind, Experience and School,* OERI wanted to put their research findings into action. In 1999, *How People Learn: Bridging Research and Practice* came to fruition. In this applied publication, three specific implications were made for teaching which stemmed from the previous publication's principles. These implications were:

- teachers must draw out and work with the preexisting understanding that their students bring with them;
- teachers must teach some subject matter in depth, providing many examples in which the same concept is at work and providing a firm foundation of *factual knowledge;*
- teaching *metacognitive skills* should be integrated into the curriculum in a variety of subject areas. (Donovan et al., 1999, p. 15-17)

Preexisting Understanding

Students bring to the classroom knowledge which has been learned over their lifetime. In preschool years, children engage in sophisticated understandings, accurate or inaccurate, of the phenomena around them (Wellman, 1990). Those initial understandings can have a powerful affect on the integration of new concepts and information. Many times in science the existing knowledge is based upon observation which has never been challenged or questioned, thereby leading to misconceptions. This incorrect knowledge has been labeled by investigators as preexisting understanding, prior knowledge, misconceptions, alternative conceptions and naïve theories (Wandersee, Mintzes, & Novak, 1994). An accurate understanding provides a foundation on which one builds new knowledge, but when the understandings are inaccurate new learning is generally inhibited. Novak (1998) and Michael and Modell (2003) agree that new

knowledge is built on preexisting or prior knowledge and learned by the process of reconstructing and reordering information until it is meaningful.

Michael and Modell (2003) discuss, in particular, the system of *input*, *output*, and *assessment.* *Input* is the modality an educator uses to communicate new knowledge, *output* is the final product and exhibits students' synthesis of subject-matter, and *assessment* is a form of output that will make student's thinking visible to themselves, peers, and teachers. Michael and Modell (2003) believe constructive assessment is different from a rigid format of grading and suggest it can be used as a way to access pre-existing understandings and grasp a student's current state of knowledge. A student's proximation of learning can then indicate how the educator should proceed with teaching. Using assessment can prompt the educator to dig deeper into students' current understandings. The most crucial point of Novak (1998) and Michael and Modell's (2003) literature is their value of a student's comprehension, rather than the ability to score high marks on exams.

Zull (2002), with support from David Kolb's learning cycle, in *The Art of Changing the Brain* discusses learning from a physiological lens. Zull (2002) suggests instruction can be directed to specific parts of the brain where learning will occur more naturally rather than forcing one particular type of instruction for all subject-matter. He believes the advantageous shape of the brain actually encourages learning. His work adds additional insight to *How People Learn: Bridging Research and Practice*. According to Zull (2002), learning is affective when instruction focuses on the capabilities of different parts of the brain and the interaction of emotional structures with cognitive structures. Further, Zull's (2002) view is that all students have prior knowledge which affects how they respond to teaching. The prior knowledge is physical, real, persistent, complex, and personal, as well as concrete. Because of the deeply

entrenched nature of prior knowledge, students are not necessarily aware of all their prior knowledge, but teachers ignoring or avoiding prior knowledge will hinder instruction. Prior knowledge should be considered a gift to teachers since it can serve as the marker for where and how to start instructing.

Seeking out students' natural talents, using specific concrete examples and metaphors, concurrently pairing instruction such as nursing care plans with lecture and lab are all ways to work with existing knowledge and ingrain new knowledge more deeply, and, in some instances, help the student know what they already know (Zull, 2002). Approaching learning with a biological lens is meant to make educational theory of prior knowledge more real. Zull (2002) asserts that, "it is one thing to have a theory that learners construct their own understandings by building on what they already know and quite another to actually see how this construction happens – to understand the physical process by which networks of neurons grow more complex through sensory experience. The latter is a real physical process that explains the former" (p. 248). Similar to most research involving cognition, research findings about learning are presented without indications for implementation. Yet, Zull (2002), Michael and Modell (2003), and Donovan et al., (1999) provide sound research on learning with real, tangible implications for instruction. Because nursing has a predominate science component, these findings can be applied to nursing instruction.

Nursing students tend to be adult learners who enter a nursing program with multiple misunderstandings. Ruth-Sahd and Tisdell (2007) found that, "numerous research experiments demonstrate the persistence of preexisting understandings among older students even after a new model has been taught" (p. 11). An example of a misconception is the image of the heart. Initially, an individual's mental image of the heart is a "heart-shaped" one dimensional property.

An individual's emphasis is placed on the vital functions of a heart and not necessarily the science of how the heart performs its vital role. Misconceptions challenge nursing students' further understanding of the heart as a muscle with chambers and the electrophysiology that causes the heart to contract (Donovan et al., 1999). Being aware of incorrect preconceptions, instructors can bring them to the surface and test them with concrete examples in laboratory experiences. If prior knowledge turns out to be useless, students will stop using it and learn new ideas (Zull, 2002). By balancing theoretical and practical aspects of nursing instruction one can more easily customize learning that is valuable and useful. Armed with this type of knowledge, students can become more satisfied and less frightened in the clinical setting as well as through the nursing school process.

Foundation of Factual Knowledge

Anatomy, physiology, and pharmacology form the scientific foundation of knowledge for nursing practice (Carper, 1978). In a practice-oriented profession such as nursing, the ability to take theoretical matter and translate it into the practice setting is imperative for the health and safety of patients (Pensivy, 1977). For example, student nurses learn about various classifications of medicine in their first-year pharmacology class. Knowledge about the chemical classification of medicine is essential but the students have to be able to apply this knowledge to their patient's condition and situation which includes any side effects or other life impacting implications. A deep understanding of subject matter transforms factual information into usable knowledge (Donovan et al., 1999). The gap between theoretical knowledge and practice is lessened by developing an applicable foundation of knowledge. Developing a strong scientific foundation opens the doors for graduate nurses; whether they chose upon graduation to work with children, adults, and elderly or to specialize in cardiology, oncology, or any other

field, the mature knowledge base allows the student to notice familiar patterns that can be transferred into competent care for any individual more easily.

Metacognition

The third implication for teachers, *metacognition,* is the process of reflecting on observations which often materialize as an individual's internal dialogue (Donovan et al., 1999). The innate process of metacognition can become for the student. By voicing the internal dialogue through reflection, journaling or peer discussions, the learner can begin to recognize patterns in their learning process (Donovan et al., 1999). To be of personal worth, students have to use a process that is most comfortable for them, and the teacher has to provide a method and time allotted for reflection (Ruth-Sahd & Tisdell, 2007; Sharif & Masoumi, 2005; Stewart, Dannefeldt, Stewart, Fester, & McHaffie, 2009). Metacognition encourages inquiry and imagination which encompasses the emotional aspect of the learning process thereby making it more meaningful.

Historically, scientific research lacked inquiry and imagination. From the preschool years to higher education, time to reflect, think and ponder has not been true across the board. According to Donovan et al., (1999) inquiry times for learning should be a guiding force rather than incidental reference during the busy school day. Albert Einstein (1995) believed imagining new ways the world could work beyond what is seen and expected is the most exciting aspect of science. Questioning the obvious is how many great discoveries have been made, such as, Charles Darwin's long, desolate journey to the Galapagos Islands and Gregor Mendel's discovery of discrete aspects of heredity.

E.O. Wilson (1994), the famed entomologist, has also described long periods of inquiry in his book *The Naturalist.* Wilson had an inquisitive spirit that thrived and swelled to enormous proportions through his experiences of boyhood, adolescents, and adulthood. His experiences

did not happen by chance as Wilson (1994) recalled, "the boy who experienced the magic of the zoo and museum is still strong inside me, he is the puppet master of the man" (p.205). Further he believes the learner explores and learns through images implanted in the mind that are pulled from memory in later life. This image transmits an energy that directs the growth of experience and knowledge. For these scientists, when questions arose, they tested them, and when desires came about, they acted upon them. Collectively, Einstein, Darwin, Mendel, and Wilson attribute their successes to metacognitive processes of reflection, thinking, and asking.

In their value of inquiry, these scientists have the support of the NRC which emphasizes inquiry-based instruction for learning rather than scripted, inflexible instruction. Inquiry aids the student in knowing their mind and thereby taking learning further and cultivating competence. Engaging in inquiry through practices of metagcognition have been shown to increase the degree to which students competently transfer knowledge to new settings and events and is a venue to build upon prior knowledge (Donovan et al., 1999; Michael & Modell, 2003).

Learner Characteristics

Rather than addressing race, age, ethnicity or even student attitudes and practices as separate entities that have changed over time, today's student, the millennial, represents a different student than the traditional nursing student of the 1800s. In the 1800s the nursing school began formal training programs and initiated instruction methods still used today. A widely held Victorian belief guided nursing as a profession from the inception of formal training programs in 1869, as stated by Rodgers (2007), "sensitivity, breeding, intelligence, and ladylike behavior, including submission to authority were desired characteristics of nursing school applicants" (p. 32). The changing nursing student will be analyzed more closely in the historical analysis, and

vast differences in characteristics will likely be revealed in comparing the student of the late 1800s to the millennial student.

Millennials

Labeled less frequently as *Generation Y* and more frequently as the *Millennial* generation, today's students are children of the baby boomers. With birthdates between 1979 and 1999, their life experiences have been markedly different than their parents' and educators' (McCoog, 2008; Orrell, 2007; Zemke, Filipczak, & Raines, 2000). Millennials are the first multi-cultural, equal opportunity-for-all generation (Robert Half International & Yahoo! Hot Jobs, 2007). Fortunately for millennials, men, women, and minorities have had equal rights. Race has not been a life or death determining demographic as half of the United States, during the millennials' lifespan, has consisted of non-white individuals. To reflect these ideas, Orrell (2007) referred to a peer group of millennial friends appearing like a political group of the United Nations. She likened the two groups because of diverse race. Gender differences are also of little consequence for millennials, since Orell (2007) suggests females do not expect to have to "earn" a male colleague's respect because they are women. Respect is assumed from the first encounter.

In terms of age, today's students now span all generations, with 39 percent of the postsecondary population consisting of adults over 25 years old. Indeed, 73 percent of all students count as "nontraditional" since they are older, attend part time, have children, or support themselves financially. College is generally another responsibility in line with everything else (Nikirk, 2009; Pardue & Morgan, 2008). Because education fits as a piece into the larger scope of their lives, students now desire to learn efficiently. Millennials' learning desires are supported by Zull (2002) who suggests that whatever fits with a student's life and emotions will be learned.

Activities were rigidly scheduled into each and every spare moment of a millennial's young life. Orrell (2007) refers to scheduling as *hyperscheduling,* a concept Janet Lawley (2008), a member of the 21st century learning initiative, uses when addressing the challenges of educating today's youth. With the family as a tight-knit unit and hyperscheduling of daily routines, Lawley (2008) has referred to the parents as *helicopter parents*; who hover over their children and allow them little freedom. Because of hyperscheduling from parents when these people were young, now as adults, they still require close and constant parental involvement. A partial enabler to the parent's involvement is technology that has been ever present throughout millennials' lives. In a whim parents are available to offer advice and guidance via email, or intervene on their children's behalf when it comes to difficulties at school or on the job. Due to technology, millennials are also in constant communication with one another, whether with a Blackberry®, I-phone®, or internet. These qualities about millenial students create barriers of understanding between teacher and learner.

Phase One of Historical Research

The history of nursing in the United States stems from health care needs of people within the context of the times and events. Rodgers (2007) states that "social, political and economic factors have influenced who is drawn to the profession as well as technological advances and theoretical shifts in medicine and science" (p.29). To train nurses formally, schools of nursing were established in the United States around 1900, with Nightingale's (1860) *Notes on Nursing,* initially providing the backbone for instruction development. With the formalization of nursing education, because women saw nursing as a second nature act, the nursing vocation quickly grew. Shortly after 1900, 432 schools of nursing with 11,164 pupils existed. This dramatic increase can be attributed to the immense popularity of nursing for women and hospitals being

able to provide inexpensive health care by using the students to minister to the increasing numbers of ill people (Kalisch & Kalisch, 1995). Schools converged efforts to accommodate the rapid growing student body but gave little time to develop and change modes of instruction in nursing science education. In this early period of nursing education history, schools set a precedence which did not focus on assessing and updating instruction. Therefore, the instructional methods, face-to-face lecture and hospital clinical, are repeatedly used throughout history. Other common instructional tools have been laboratory and care plan development. Within these instructional methods and tools, some adaptations have been made with the incorporation of visual aids, technology, inquiry, and flexibility.

Historical Narrative

Nurse stems from a Latin root, *nutrio*, which means *I nourish* (*Merriam-Webster's Collegiate Dictionary*, 2009). Through the 20th and 21st century, nursing students and professional nurses had an image of a nurse as a nurturing, maternal, young woman who cared for people in a weakened condition. In the early 1900s, these persons in need were most commonly depicted through pictures and stories. Infants, frail and elderly, injured soldiers, hungry and cold persons, helpless and sick persons, even ignorant mothers and fathers represented picturesque patients (Beard, 1936). Photos of nurses generally reflected young Caucasian females in a maternal, wholesome light (Christie, 1969). Yet, contrary to mounds of photos of young, white females, the historical analysis reveals that minority men are the ones who began the age-old act of nursing.

As nursing became a profession rather than a trade, and the training became formal education based in the hospital and then to a University setting, men and minorities were all but extinguished from the field of nursing. The Living History Museum located in University of

Maryland School of Nursing serves as the primary source of archival data. The nursing school is one which is typical and reflective of nursing schools around the country. It was founded in 1889, and for the first 60 years the school of nursing was based out of the Baltimore Hospital. After World War II, the school of nursing was moved to University of Maryland in Baltimore.

250 BCE to 250 CE

The first nursing school in the world was begun in India, where men were considered "pure" enough to become nurses. The Charaka, Vol I, Section XZ, or book of guidance provided the following guidelines for the men (as cited in Krishnan, 2008). They should be of good behavior, distinguished for purity, possessed of cleverness and skill, imbued with kindness, skilled in every service a patient may require, competent to cook food, skilled in bathing and washing the patient, rubbing and massaging the limbs, lifting and assisting him to walk about, well skilled in making and cleansing of beds, readying the patient, and skillful in waiting upon one that is ailing and never unwilling to do anything that may be ordered (Krishnan, 2008). In 250 CE Rome, an organization of men called the Parabolani brotherhood was initiated. These men provided care to the sick and dying during the great plague in Alexandria. In this early time, although the act of nursing was primarily a self-trained job, each man had a mentor who provided guidance (Lucas, 2002).

1300 to 1600

In 1300, orders such as the Knights Hospitallers of St John of Jerusalem, the Teutonic Knights, and the Knights of Lazarus existed in Jerusalem and Europe. These orders were comprised of brothers in arms who provided nursing care to their sick and injured comrades. Not only were they efficient at providing care for the sick but they were also responsible for building, organizing and managing hospitals. These brothers set a standard for the administration of

hospitals, predominately in the battlefield, that influenced the organization of today's military battlefield hospitals. A similar brotherhood was mentioned in the 1400s, the Alexian Brotherhood. Members of this group were men of religion, chivalry, militarism, and charity. Most noted was their retrieval of injured soldiers from the battlefield and safe transportation to medical stations. In America, one of the first American nurses documented was Juan de Mena, a Hispanic man who immigrated to the United States in the late 1500s (Porter, 1858).

1800 to 1890

Lazaro Orranti and Martin Ortega were two men employed as nurses at a hospital in San Antonio. This hospital recruited only men for the apprenticeship of nursing and then further for employment as nurses. At this point, nursing was still a learned trade or apprenticeship. In the 1850s, poet and writer, Walt Whitman served as a volunteer hospital nurse in Washington, DC during the Civil War. He recorded his experiences in a collection of poems called *Drumtaps* and in his diary, *Specimen Days and Collect* (Campbell, 2009).

During the 1860s to 1870s, men in the Confederate and Union army served as nurse trainees and nurses. At this point, only men were allowed to train as nurses. Military leaders believed the frontlines of combat required strong, durable persons. Outside of the military, within communities, African-American women were allowed to train as nurses. Their training was an alternative to slavery. Sojourner Truth, Harriet Tubman, and Susie King Taylor were three African-American women who are often spoken of in nursing history (Rodgers, 2007).

In New York City, one of many training schools for men was founded and was called the School for Male Nurses at New York City Training School. This school was exclusively for the training of men in nursing (Rodgers, 2007). Manhattan became a hub for the training of male nurses. In 1888 the Mills School for Nursing and St.Vincent's Hospital School for Men were

begun (Geocites, 2009). There is no clear record of what happened in this time period where nursing switched hands from being primarily male and inclusive of minorities to a solely Caucasian, female profession. However, somewhere in the late 1800s to 1900, an insidious change took place, and nursing students became only female, young, unmarried, and Caucasian.

By the end of the 1800s, Florence Nightingale revolutionized nursing by stressing that nursing was not a domestic, charitable service, but a respected occupation requiring advanced education through formal instruction (Chitty & Black, 2007). Nightingale (1860) published *Notes on Nursing* which became the inspiration and only instruction manual. An excerpt from Nightingale's instruction manual implies women have a naturally ability to become nurses, and by this calling to women, men are further distanced from the profession. Even though Nightingale (1860) insisted on women as nurses, she revealed a more progressive view of education by encouraging the student to have ownership over their learning:

> The following notes are by no means intended as a rule of thought by which nurses can teach themselves to nurse, still less as a manual to teach nurses to nurse. They are meant simply to give hints for thought to women who have personal charge to the health of others. Every woman, or at least almost every woman, in England has, at one time or another of her life, charge of the personal health of somebody, whether child or invalid, -in other words, every woman is a nurse. Every day sanitary knowledge or the knowledge of nursing, or in other words, of how to put the constitution in such a state as that it will have no disease, or that it can recover from disease, takes a higher place. It is recognized as the knowledge which every one ought to have-distinct from medical knowledge, which only a profession can have.

> If, then, every woman must at some time or other of her life, become a nurse, i.e., have charge of somebody's health, how immense and how valuable would be the produce of her united experience if every woman would think how to nurse.
>
> I do not pretend to teach her how, I ask her to teach herself, and for this purpose I venture to give her some hints. (p.5)

St. Thomas's Hospital in London founded by Nightingale established the curriculum that would be adapted by American nursing schools. *Theory* (lecture) and *practical experience* (clinical) were the two main components of instruction. *Nursing care plans* were written documents that allowed the student to describe the nursing process as it applied to the student's individual patient (Chitty & Black, 2007). As other nursing schools were formed in Europe and the United States, Nightingale's curricula became the foundation for instruction. By the late 1800s, education moved into the hospital setting and became formalized training for nurses and was widely supported by physicians and advocates of social reform.

1890 to 1900

In 1889, a training program began for nurses to replace the nuns currently providing nursing care at Baltimore Hospital. Nuns as nurses are credited for establishing the initial characteristics of nursing students. These characteristics were: (a) obedience, (b) good moral character, (c) single, and (d) female. Efforts were also made by early nursing leaders to combat an image previously set forth by Charles Dickens' character, Sairy Gamp. This image was one of a slovenly, older, bitter lady (University of MD SON, 1999, II). The nursing leaders tried to maintain the nun-like perception by developing a student uniform which conveyed authority but cast the women as gentle. The uniform had a tight corset suggesting femininity by the hourglass

silhouette it created. However, the uniform was stark white and heavily starched, as in Photograph 1, which also spoke of authoritarianism.

Records from University of Maryland nursing school suggested the training school attracted and accepted large numbers of young, white women from small towns and farms (University of MD SON, 1999, IIb15). The largest majority of women at the turn of the 20th century worked in the home and were not educated or employed.

Photograph 1. Photograph of Nursing Uniform--circa 1905 Copyright 2006 by University of Maryland School of Nursing, Baltimore, MD. Living History Museum. (IIA1-2), Reprinted with permission.

Nursing students of this decade recognized education as a privileged experience. South of Baltimore, the first female nursing school in Texas provided not only an education but also an opportunity to gain autonomy as revealed in *The Galveston Daily News* which proclaimed

nursing as, “a new field in which educated women may find a means of support” (as cited in Chitty & Black, 2007, p. 33).

Pride and dignity were lifelong associations for Baltimore nursing students and their education, in a 1931 interview, Mary Cornman, class of 1893, stated the following regarding the caps nurse graduates would receive upon successful completion of nursing school: “A cap is a badge of service and when we consider all our cap means to us, we should want to wear it so that it will show, almost as a crown!” Becoming a nurse and receiving training was an accomplishment rather than an entitlement. Nursing students of this time approached training with immense dedication.

Efforts to unify nursing schools nationwide began in 1894 where female nurses organized the First Annual Meeting of the Superintendents of Female Nursing Schools in New York, this organization prohibited men to join or to attend their meetings (Chitty & Black, 2007). The Nurses Associated Alumnae of the United States and Canada, which became the American Nurses Association (ANA) in 1917, also excluded men from membership. These two organizations were influential to nursing practice but they only allowed females membership. Men were exiled from the organizations until the late 1930s (Lucas, 2002). Initially, nursing students were young men, deeply steeped in religion and chivalry. Male nurses of this early era defined themselves by their service, similar to a monk’s service. At the close of the 19th century, nuns then women with good moral character and obedience essentially had replaced men as nurses.

Louisa Parsons served as one of the first forward thinking nurse leaders at the University of Maryland, School of Nursing. She faced instructional challenges as the amount of complex material students were responsible for understanding mounted. During an 1890 School of

Medicine meeting, this was said about Louisa: "Under her guidance, the pupils in the school are instructed in ALL that pertains to scientific nursing" (Parsons, 1890, p.2). Louisa encouraged faculty to use instruction methods that covered broad amounts of material but aimed to teach in-depth as well. The formalization of training imposed deep implications for instruction which was recognized by few nurse leaders.

Lecture and clinical were the two main instruction methods. Clinical was essentially training on the nursing ward. Nursing students typically shadowed senior nursing students or physicians to learn skills (University of MD, 1999, IIB17). Concerning her clinical experience for this time period was mentioned by Ellen Israel, class of 1910, mentioned in a 1963 interview that: "A great deal of teaching was done by the head nurse on the ward who was most likely a senior pupil nurse" (Israel, 1963). Lecture was an instruction mode used greatly in the formal learning environment. From the School of Medicine meeting: "Lectures are also delivered to them (nursing students), by the men of the Faculty of Physics, Elementary Anatomy, Physiology, Materia Medica, Chemistry, Antisepsis and Hygiene, as well as upon nursing in special practice" indicating that lecture was a primary format for discussing theoretical material (Parsons, 1890). Lecture by experts in these specialized areas was often confusing for students, since the lecturers spoke of concepts beyond what the students understood and because of the complexity of subject-matter. Students spent hours transcribing notes and using textbook books to gain comprehension (University of MD SON, 1999, IIB14). One can assume from historical data of this decade that clinical was skill-oriented, and that lecture was used to discuss theory.

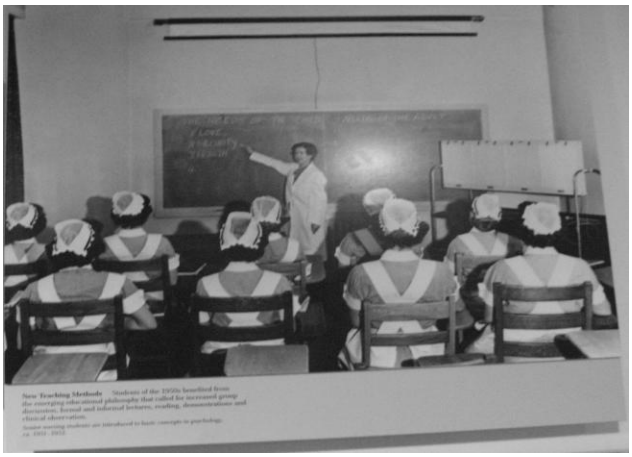
1900 to 1910

Nursing students of this time accepted the strict behavioral rules of nursing school as revealed in a 1971 interview of Ellen C. Israel, "We really strutted our stuff and were as proud as peacocks.

Even now, I think we had a right to be, as we had all been 'thru the mill'" (Israel, 1971). Strictness of nursing faculty and the demand for obedience created an atmosphere that replicated seminary or convent life rather than scholarly education. The devotion to school and rigidity of on-campus residency allowed very few free hours for personal enjoyment. With the Civil Rights Movement being years away and segregation very strong, not only were students still female but they continued to be strictly Caucasian.

Textbooks became the primary resource of learning. Students used textbooks to define terms and aid in understanding of difficult material presented in lecture. Nurses tended to author the textbooks which made it further advantageous to learning because the language was more understandable for students compared to the advanced jargon of professors of medicine (University of MD SON, 1999, IIB14). University of Maryland nursing students discussed taking verbatim notes during lecture because lecture was delivered in an advanced jargon that was beyond the nursing student's prior knowledge and because it ensured passing examinations. In the Living History Museum, IIB28 (1999), student notebooks on display revealed notes from lectures on such technical topics as diseases of the eyes, chemical microscopy, typhoid, diphtheria, material medica, urinalysis and dietetics. The notes were lengthy and representative of transcribed lecture material.

Instruction challenges were discussed in this early decade by Ethel Palmer Clarke, a 1906 graduate of University of Maryland. She, "championed new teaching methods and doubled classroom instruction" (University of MD SON, IIB11, 1999). The doubling of classroom instruction brought about involvement of more nursing faculty, see Photograph 2.



Photograph 2. Photograph of University Lecture Room--circa 1910Copyright 2006 by University of Maryland School of Nursing, Baltimore, MD. Living History Museum (IIB2-6), Reprinted with permission.

Concerning lectures, nursing faculty discussed concepts in a language that students could understand as compared to the complex jargon medical professors used. Also, Clarke encouraged the incorporation of in-class demonstration for nursing procedures and believed the demonstration in-class was a valuable tool which allowed students to practice in a controlled environment rather than practice in the hospital ward (University of MD SON, IIB11, 1999). Incorporation of in-class demonstration was a dramatic change for nursing education. For the first time, students were able to build confidence by practicing before encountering patients.

1910 to 1920

Martha Mallon, a graduate of 1913, recalled in an historic interview changes in lecture. She said that: "The Superintendent of Nurses taught theory, anatomy, and pharmacology and the Assistant Superintendent taught nursing arts and skills, demonstrating on the ward patient" (Mallon, 1965). From this statement, lecture and clinical are still fundamental instruction tools but most of the education became the responsibility of nurse educators. Textbook continued to serve as a primary resource, but they became more of a resource rather than the primary learning

tool. Interestingly, Weeks-Shaw, the author of *A Textbook of Nursing* (1910), was progressive in her view of instruction as she encouraged students to build on prior knowledge:

> Try to find out why things are done, to be familiar with underlying principles as well as details of practice. Learn to nurse by reason rather than rule, for no rule can be laid down to which exceptions will not arise. Do not fancy that after you have been through a training-school you will know all there is to know about nursing: in fact, you will only have been taught how to learn, how to appreciate and profit by the experience which you will get. Every new case will teach you something new. (University of MD SON, 1999, IIB2)

Little did this author know that building on prior knowledge would be a highly researched aspect of instruction in the 21st century.

Two important reports for the evaluation of instruction methods were released during this decade. One was the *Goldmark Report,* and the other was the results of a nationwide investigation of nursing education. The *Goldmark Report* focused on: (a) clinical learning experiences of students, (b) hospital control of schools, (c) the desirability of establishing university schools of nursing, (d) lack of funds specifically for nursing education, and (d) lack of prepared teachers (Kalisch & Kalisch, 1995). The second report was released by Mary Adelaide Nutting who was thought by many to be the first nursing professor the world ever knew (Chitty & Black, 2007). Professor Nutting conducted a nationwide investigation that focused on teaching methods being used in nursing schools. Interest in how students were instructed sparked the interest of nursing school administrators across the country. However, the United States entered World War I in this decade, and nursing graduates were recruited which inhibited Nutting's report and the *Goldmark Report* to be taken much further. Because of the demand for

rapid mobilization of troops, nurses, physicians and material, some of the customary hospital clinical was transferred to the war front.

1920 to 1930

World War I began for the United States in 1917. By 1920 nursing students and nurse graduates were heavily recruited to care for injured soldiers. Of the 50,500 graduate nurses in America, 19,000 entered the military services to care for the wounded and ill (Frothingham, 1917; US Department of Commerce, 1977). The military required nursing students and graduates to be: (a) between 25 and 35 years, (b) single, and (c) female (University of MD SON, 1999, IVE3).

Not only did the military have these particular requirements, but the nursing school continued with the same admission criteria as well. In a 1924 circular of information for University of Maryland, admission required a statement from a clergyman testifying to good moral character of a female between 18 and 35 years (University of Maryland, 1924). Being Caucasian was an assumed and unspoken requirement. This circular described instruction for each course taught in the nursing program and divided the instruction into three categories: (a) lecture, (b) class, and (c) demonstration (p. 9). In lecture, students gathered in a classroom while the instructor discussed vital subject-matter. During anatomy and physiology class time, students dissected cadavers. Then the instructor demonstrated a particular skill to the students (University of Maryland, 1924). Students became reliant upon textbooks as a reference and also to reinforce what was taught in lecture and clinical. *Nursing: Its Principles and Practice* was passed down from student to student until the 1920s (University of MD SON, 1999, IIB22).

During this time, an impetus to make nursing skills more scientific began. Classroom instruction increased, and nurses spent less time in the hospital performing "manual labor."

From the Living History Museum IIB35 (1999), pictures depict students working in the Central Supply room where they unloaded and categorized supplies. Many alumni from University of Maryland recalled "long hours of dreaded glove room duty" which is where the supplies were received and organized. Nursing students provided the primary pool of hospital staff. A superintendent of the University of Maryland in 1925 reported the difficulty in attracting students while maintaining educational standards and while staffing the hospital (University of MD SON, 1999, IIB36). Nursing student characteristics have not changed up to this point, and with the looming war and its stretch on the pool of nurses, nurse graduates and nurse educators gave little attention to improving instruction. Lecture, in-class demonstration, and clinical coupled with the nursing care plan remained the mainstays of instruction.

1930 to 1940

Characteristically, nursing students were still single, female, white, and young. However, during the war years, the disposition of the nursing student changed from one of submissiveness and obedience to one of autonomy and self-direction. With many of the United States' men enlisted overseas to fight in war, women were left at home to be the primary breadwinners and head of households (Robinson & Perry, 2001). Many women were finding themselves enrolled in school and becoming employed for the first time in their lives. Nursing had a tremendous calling as nurses were in high demand to care for injured soldiers. Military nursing had a profound impact on School of Nursing veterans and their colleagues across the country. Answering the call to serve, nurses found work that was valued and widely recognized (University of MD SON, 1999, IVD9).

The Cadet Nurse Corps was formed to train nurses for the duration of the war in either civilian or military hospitals (Robinson & Perry, 2001). Military duty bolstered the authority of

all nurses while the stratified workforce of the military put graduate nurses at the head of the nursing hierarchy. For nurses of the 1940s in particular, the experience of being in charge of male corpsmen and enlisted men would not soon be forgotten (University of MD SON, 1999, IVD9). For instruction, textbooks such as *Practical Procedures Book* were an indispensable companion belonging to a University of Maryland nursing student who graduated in 1939.

1940 to 1950

Nursing students were taken to new extremes, in 1946 where the Hill-Burton Act passed. This act lead to a rapid expansion in healthcare facilities as new hospitals were constructed. With more hospital beds filled, "an acute shortage of nurses developed and difficult working conditions were the norm" (Rodgers, 2007, p. 39). Although, nursing education was moved from hospital-based education to university and college-based, the hours students worked in the hospital were extended (Rodgers, 2007). Dedication and obedience were desirable traits but not necessarily demanded from students who endured the long hard hours in the hospital. Postcards with University of Maryland letterhead were used by students to ask parents for permission to leave the nursing school's campus. On-campus housing was still expected. By 1948, with the shortage as extreme as it was, Esther Lucille Brown released a report titled *Nursing for the Future*. Brown (1948) recommended efforts be made to recruit men and minorities into nursing education programs.

The 40s and 50s brought an influx of technology to instruction methods. The Laerdal Medical Company invented Resusci Anne which eventually evolved into SimMan®. These mannequins were robotic models that had human characteristics. They allowed the student to practice nursing procedures before going into the hospital.

A continued emphasis on nursing students as laborers persisted. Students spent many hours cleaning syringes and catheters, sharpening needles, inspecting, washing and patching gloves, and sterilizing bedpans. As a primary instruction method, students would read in textbooks how to perform these tasks, then practice the tasks in the laboratory, and then transfer them to the hospital (University of MD SON, 1999, IIB46). Opportunities to practice skills in advance helped students with accuracy, but in 1942 and 1943 the war put a continued drain on nursing resources. Nursing students were needed quickly, and a great emphasis was placed again on ward teaching by the supervisor.

Nearing the end of this decade, schools of nursing were transitioned to colleges and universities. With this transition, nursing leaders redoubled efforts to make research the basis for nursing practice. According to Gipe (1947), "No longer bound by tradition, intuition and authority, nurses began to analyze long accepted nursing procedures and articulate nursing concepts and theories" (p.1). Instruction became focused on encouraging students to ask questions, think critically, and use research as a basis for their practice.

The post World War II transition into Colleges and Universities stimulated independence. Long accepted nursing procedures were questioned, and research became the basis for nursing practice (University of MD SON, 1999, IIIC). Critical thinking and inquiry became the emphasis of education, and students were encouraged to think independently by asking questions. More technology infused instruction through visual aids as evidenced in a publication by Brunstetter (1945) "Films for Nursing Education" released in *The American Journal of Nursing.* The article encouraged the use of visual aids:

> The motion picture is now recognized as a powerful medium of instruction. It is being used to enrich and speed up the learning of students at all age levels.

> Everywhere schools are discovering the curriculum opportunities which grow out of films carefully selected and skillfully used. Schools of nursing will wish to make sure they are exploiting these advantages to the full, in the critically important task of educating prospective nurses. (p. 298)

Technological advances were evidenced in this decade with simulation mannequins and incorporation of visual aids. With the release of Brown's (1948) report, this new technology demanded that nursing administration begin to recruit new students.

1950 to 1960

To broaden the horizon of student recruitment, these requirements were stated in the University of Maryland (1950) nursing catalog: "evidence of personal stability including physical health, emotional stability, and general qualifications of personality, cultural development, and maturity" (p.11). To indicate further progress in recruitment policies, the University of Maryland admitted in 1950 the first black female. However, students remained exclusively white, young, female, and single (University of MD SON, 1999, IC9).

On-campus housing encouraged obedience and dedication. However, for the first time in Maryland's School of Nursing history, some leniency was seen with on-campus housing as evidenced by School of Nursing Catalog (1950), which stated that: "At the present time a limited number of students are allowed the privilege of living at home, permission for which is granted by the Director of Nurses" (p. 10). Subtly the school was changing to honor students' individuality. Also in the spirit of honoring students' individuality, the catalog discussed a student government association (SGA) and its role in developing extra-professional programs which they deemed, "all of these activities (field trips organized by SGA) help the students to realize their profession. Interest, relaxation, responsibility, and cooperation are thus fostered and

form a vital part of the student's life" (University of Maryland, 1950, p. 11). Interestingly, the school found students continued to have pride in nursing and professionalism without the strict requirements of immense work hours and few leisure hours. This craving for autonomy continued with students and was encouraged by school faculty without compromising the school's tight values of professionalism as exampled by the following scenario:

Miss Street forwarded a request from the underclassmen who are giving a dance to allow them to crown a beauty queen with our graduate cap. The request was rejected because the committee considered it unprofessional (Nurses' Alumnae Association, 1953).

During 1953, the Post Korean war era, men were again permitted to serve as nurses in the military and in civilian nursing. Although, this influx did not take the profession of nursing back to its roots where men cared for men in the battlefield, it did begin to raise awareness of nursing as an equal opportunity profession. Through these decades, 1890 to 1950, the rich heritage of self-training to hospital training to proper university education created and maintained a sense of pride and professionalism for students and graduates.

Students of the 1950s benefited from the emerging education philosophy that called for increased group discussion, formal and informal lectures, reading, demonstrations and clinical observation (University of MD SON, 1999, IIC3). The dean of the nursing school in the 50s and 60s began to adapt academic models to serve the special and evolving needs of nursing education. Through new instruction, students were encouraged to think critically, learn new skills, and assume leadership roles in their profession (University of MD SON, 1999). The heavily scientific nature of nursing was observed becoming noted by many educators. In the

University of Maryland Catalog (1950), the following instructional description of Anatomy and Physiology was offered:

> The anatomy of the human body is taught by lectures, demonstrations, and exercises on anatomical material. Nearly every organ, organ system and region of the body is demonstrated in actual dissections of the human cadaver…Physiology is taught in combination with anatomy, mostly by lectures supplemented by drawings, charts, models and some experiments (p. 18)

Clinical instructors used visual aids in lecture and discussion of "demonstration classes" (University of MD, IIC12, 1999). To demonstrate the students' comprehension of material, the nurse educators organized sessions for the students to teach groups of people in the community. Schools were expanding their instructional approaches, and emphasized "learning through teaching." For instance, a nursing student would demonstrate how to bathe an infant to a community group of new mothers. The effectiveness of this approach was evident in an interview with Muriel Hewell (1954), who said that, "many of us had our first opportunity to teach before a class of expectant mothers in clinic. Although we all trembled at the thought of teaching, once the class began, all fears banished." Beyond these new methods of instruction, clinical experience remained a mainstay for educating students. Both clinical experience and lecture were typically still paired together. Lecture would at times take the name of "preclinical" which included: (a) medical-surgical nursing, (b) the operating room, (c) pediatrics, (d) obstetrics, (e) public health, and (f) psychiatry (University of MD SON, 1999, IIC14).

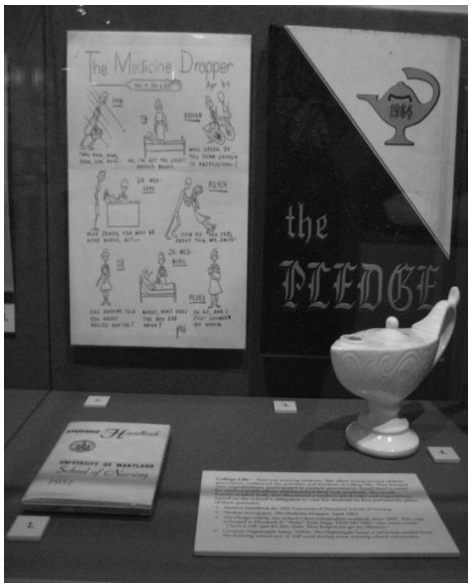
Educational reform in nursing exploded during the 1950s. As stated in the museum archives, "the urgent need for more knowledge led to an inordinate amount of on-the-job learning, unprecedented nurse-doctor collaborations and the broadening of the critical care nurses clinical

authority became more of a norm than exception" (University of MD SON, 1999, IVC12). Because of the impact on safe patient care, the impetus to learn meaningfully in nursing school rose as the critical nature of nursing arose in the hospital. There, the students and nurses were faced with life and death situations in acute conditions with understaffing. Understaffing, increasing patient demands, and nurses' limited expertise in dealing with sudden emergencies, as a result the intensive care unit (ICU) and critical care nursing began to surface (University of MD SON, 1999, IVC5).

1960 to 1970

A drastic change in student characteristics began with post-war nursing students. Still female, this generation of women embraced outside activities and freedom of college life. The nursing schools were trending away from required on-campus residency and free time on-campus was more abundant than in previous years. Nursing students began to express interests in things other than their professional schooling by forming new organizations, participating in student government, launching year books such as *The Pledge* and writing for campus publications such as *The Medicine Dropper* (University of MD SON, 1999, IIC16-18,19), see Photograph 3. A characteristic that remained constant from previous generations was that of nurturing, as evidenced by a small female nursing student body that assumed the role of caring for one another *in loco parentis* (in place of their parents). These students adapted a modern set of rules and expectations based on the school and took it upon themselves to serve as nurturers to one another (University of MD SON, 1999, IIC19).

University of Maryland School of Nursing aimed to keep up with booming changes in technology. Hospitals were implementing new technological devices to care for patients but it



Photograph 3. *The Medicine Dropper* and *The Pledge*--circa 1964. Copyright 2006 by University of Maryland School of Nursing. Living History Museum (IIC16-18,19), Reprinted with permission.

was a challenge for schools to afford these same devices. As a result, both the school and hospital provided interactive simulated sessions so that the students could become familiar with these devices. The school collaborated with the hospital to arrange times and resources so that the students may practice. Such exposure to new technologies in a simulated setting was a way to facilitate learning (University of MD SON, 1999, IIC 40). Audio-visual equipment, nursing skills labs and computers enabled nursing educators to keep up with rapid changes in medicine and health care, educate larger numbers of students, and provide practical experience when increasing patient acuity levels made hospital teaching risky (University of MD SON, 1999, IIC 40).

As technology increased, hospital clinical also served to reflect this with incorporating more critical care rotations. From Neonatal Intensive Care to Cardiac Intensive Care, students were reaching further into the world of technological advances with such devices as electric intravenous infusion pumps, Stryker-frame beds, and respiratory ventilators. However, in the

classroom, super 8mm projectors were the main component of the school's "Instructional Media Center," the place where students could go to see images of material being taught (University of MD SON, 1999, IIC 41).

The University of Maryland School of Nursing expanded and aimed to become a leader in nursing schools as several nurse educators were hired who were known for their spirit of inquiry. This spirit offered a welcomed change because of previous approaches to nursing instruction which emphasized hard science education in a militaristic, obedient fashion. The new approach to instruction was described in Dean Marion Murphy's Statement of Philosophy posted in the School of Nursing Catalog (1971):

> Education is an on-going process which involves the teacher and the learner in pursuing and sharing knowledge in an organized setting with planned experiences resulting in desired behavioral change. Believing in democratic principles, the Faculty emphasizes its faith in the individual as a being of inherent worth and dignity who has the right and responsibility to participate in the educative process to the extent of his capabilities. (p. 3)

Many things were communicated through Dean Murphy's philosophy, most importantly, the students being accountable for their educational outcome rather than the school being responsible. More individual value was placed on the student's learning instead of expecting all students to learn in the same manner.

1970 to 1980

In 1964, University of Maryland School of Nursing signed a contract to provide baccalaureate nursing education for the Department of the Army. The Walter Reed Army Institute of Nursing (WRAIN) was developed and housed out of Washington, D.C. WRAIN was a trend setter for

the country as it graduated 1100 men and women between 1968 and 1978 (University of MD SON, 1999, IIC44). The program was different from many other nursing programs because it drew students from across the country and attracted large numbers of males and African Americans (University of MD SON, 1999, IIC44).

In the general nursing school catalog, an attempt was made to attract a diverse population of students. Concerning applicants, "students of all races, colors and creeds are equally admissible. It is the objective of the School of Nursing at the University of Maryland to enroll students with diversified backgrounds in order to make the educational experiences more meaningful for each student" (University of Maryland, 1971, p.14). Past admission criteria were banished and the search for individuals and their unique contribution to the profession became more valued. To no surprise, despite broader admission criteria, nursing had more to accomplish before the profession would be less stigmatized as a predominately young, white, female profession.

1980 to 1990

The School of Nursing experienced an explosive enrollment in the late 1970s, and in 1984 the on-campus housing dormitory was closed at University of Maryland. Educators began to see students commuting from the metropolitan area and beyond. The closing of the dormitory suggested the commuter life was now the normal student way rather than on-campus living (University of MD SON, 1999, IIC52). Nationwide, active recruitment took place to lure men and minorities into nursing schools. The continued shortage forced nursing to open its doors to all individuals, but the prior reputation of nursing as a white, female profession impeded recruitment efforts.

Expanding the nursing skills laboratory at the School of Nursing, the educators incorporated visual aids, such as anatomical models of the heart and models capable of nasal gastric tube

insertion. By practicing the nasal gastric tube insertion prior to the clinical, the students were continuing to participate in clinical simulations. The technological boom had not touched every person in every setting as exampled in *The Pledge* (1982), the nursing school's yearbook. Computers in the clinical setting were viewed as a novelty rather than a functional piece of technology, and slide-tape loops were used to show images with a monotone voice as narrator.

By the end of the 80s, technology was making a lasting impression in nursing instruction. In 1988, the School of Nursing began offering the world's first graduate specialization in Nursing Informatics. The program prepared graduates "to analyze nursing information requirements, design system alternatives, manage information technology, identify and implement training strategies, and evaluate the effectiveness of clinical and management systems in patient care." (University of MD SON, 1991). Also in the late 80s, concept mapping was introduced by Novak. Concept maps were utilized in nursing schools as a substitute of or in conjunction with traditional nursing care plans. Rather than using the linear, formulaic care plan, a concept map sought to encourage understanding of complex patient care concepts. During this time, Benner's (1984) theoretical framework, *From Novice to Expert*, was published. Again, the importance of instruction and its ability to facilitate the development of critical thinking skills in nurses was discussed. Benner's detailed discussion of teaching students based on their knowledge base and experience is still used as a guide for nursing schools today.

1990 to 2000

The demographics of the country continued to change as nursing reflected community changes. Latino children living in Prince Georges County, Maryland created a bilingual anatomical drawing as a teaching tool for nurse practitioner faculty and students who brought healthcare to the community through a mobile doctor's office called "Well-mobile" (University

of MD SON, 1999, IIC53). The School of Nursing saw the country's changes penetrate beneath the level of instruction for a diverse community of patients and welcomed an increasingly older and more diverse student body and offered a growing number of students community-based clinical experiences (University of MD SON, 1999, IIC68).

Through pictures in *The Pledge* (1999), the School's graduating class was one that reflected the long-term effort to diversify the student body. Hispanic, African American, Asian, and white students constituted nurse graduates. By attracting more men, diverse age groups, and ethnicities, the profession met the needs of people in search of a challenge and, for some, a rewarding second career. *The Pledge* (1999) featured a picture of a male graduate celebrating with his daughter (University of MD SON, 1999, IIC69-70).

The School of Nursing adapted a vision that would enable students to graduate with a comfortable grasp of technological advances in patient care and to contribute to the larger body of knowledge in nursing through research. A vision for the school was that, "Today's nurses must acquire scientific knowledge and clinical proficiency and also be able to think critically and integrate research into practice" (University of Maryland, 1997). By way of accomplishing the school's vision, strategic planning became a hallmark of the 1990s as the School of Nursing grappled with unprecedented changes in health care, technology, and society. The School rebuilt the undergraduate curricula, introduced new academic specialties, and pioneered the use of computer-aided instruction and clinical simulation (University of MD SON, 1999, IIC68).

As a response to the many changes, the School made an effort to keep students up-to-date on patient care technology through bulletins such as *Learning Technologies Views* which discussed the latest developments in learning technologies. Classrooms were rebuilt in 2000 to incorporate continued technology into instruction, more pre-clinical simulation laboratories, state-of–the-art

research facilities as well as an informatics laboratory (University of MD SON, 1999, IIC73). Curricula continued to offer direct clinical experience in a myriad of health settings but also emphasized problem solving by use of critical thinking skills and evidenced by sound generation of nursing care plans (University of MD SON, 1999, IIC76).

In the 21st century, a boom of publications was released that directly spoke to instructional methods of nursing schools. A few of the publications were: the NLNAC's (1993) *A Vision for Nursing Education*, the AACN's (2005) *Nursing Education's Agenda for the 21st Century*, and Pew Health Professionals Commission (1998) report *Health Profession Education for the Future: Schools in Service to the Nation.* A common theme found in the reports that addressed instruction was that curricula and learning activities should stimulate students' critical thinking skills rather than encourage rote memorization. The AACN, NLNAC, and Pew Health Professionals Commission are keynote organizations with impacting decision-making authority. Through these publications, they emphasized the meaningfulness of instruction which will make knowledge useful thereby making patient care safer.

Conclusion

In the late nineteenth century and early part of the twentieth century, the general rule in nursing education was that people were not educated to think and read critically, to express themselves clearly and persuasively, nor to solve complex problems in science and mathematics. In the 21st century, to meet the demands of a changing healthcare environment, meaningful learning not only became desirable but was also demanded of nurse graduates (AACN, 2008; Donovan et al., 1999). The demand that nurses master certain skills and intellectual dispositions increased dramatically. Nurses need to be thoughtfully organized and be able to change in response to competitive workplace pressures.

Research in cognitive psychology has increased our understanding of competent performance and of the principles of knowledge that underlie people's abilities to solve problems in a wide variety of areas. Research on transfer and retrieval has uncovered important principles for structuring learning experiences that enable people to use what they have learned in new settings. Work in social psychology, cognitive psychology, and anthropology is making clear that all learning takes place in settings that have particular sets of cultural and social norms and expectations and that these settings influence learning and transfer in powerful ways. Neuroscience is beginning to provide evidence for many principles of learning that have emerged from laboratory research and to show how learning changes the physical structure of the brain and with it, the functional organization of the brain.

Emerging technologies lead to the development of many new opportunities which can guide and enhance. Students today represent the nation's population, a melting pot of diverse age groups, men and women, and inclusive of all races. The nursing schools' changes in recruitment have made slow but steady changes on the overall demographic of student bodies. For today's students, nursing school is often coupled with many other responsibilities, as obedience, dedication, pride, and professionalism begin to dissipate. Many of the historic University of Maryland nursing students left behind memorabilia of nursing school that spoke of rigorous apprenticeships which emphasized respect for authority, self-discipline, and perfecting nursing skills through their practical experience on the hospital ward.

Decades after formalizing nursing education, accrediting bodies for schools of nursing are charged with overseeing instruction of students among many other things. The NLNAC and AACN have similar missions in regards to nursing education and both place a heavy emphasis on instruction. Mostly, the organizations support and encourage learning tools that aid

meaningful learning, fair knowledge evaluation, and a learning experience that creates a sense of connectedness and purpose with the World. Audience appropriate instruction which builds on prior knowledge and encourages meaningful learning is not only a way to create a happier individual but is also the only way to ensure a nurse graduate's competence to care for the critically ill patient.

METHODS

Introduction

Research questions, the nature of the phenomenon being investigated, the purpose of the study, the theoretical framework and practical concerns, such as resources and time contribute to the choice of research method (Porter, 1989). The phenomenon of interest for this study is the nursing care plan as a proxy instruction tool of higher order cognitive processes throughout nursing education history. Knowledge about the history of nursing student characteristics, nursing education, and instructional tools which guided education, as well as a description of the cognitive processes which this instruction tool elicits necessitates a research methodology that is inductive, process oriented, contextual, and descriptive. Therefore, a qualitative method is appropriate.

Several qualitative research methods have been developed by various disciplines. Sociology developed grounded theory; anthropology developed ethnography; philosophy and psychology developed phenomenology, and in the late 19th century when the professionalization of history emerged, history refined historical research. Although interest in qualitative research methods is relatively new for the discipline of nursing, it is a relevant approach to research in a field where caring for patients always includes acquiring a nursing history and understanding the phenomena of human experiences of suffering, wellness, and health-illness experiences (Merriam, 2009; Patton, 2002).

Beyond understanding patient histories, Drew (1989) suggests history becomes nursing scholarship's "source of identity...it helps us gain identity and personal meaning in our work, improves our comprehension and our planning, and validates social criticism" (p. 432). Also

fitting into the qualitative paradigm are phenomena related to the development and understanding of aspects used in nursing education.

Among the diverse research approaches in the qualitative tradition, historical research was the most prominent method used in data collection and analysis of this study. Secondly, descriptive phenomenology helped analyze the experience of learning the nursing care plan as described in historical textbooks. Lastly, the theme cluster "learning objectives" derived from Colaizzi's (1978) method for data analysis were evaluated with Bloom's revised taxonomy to draw conclusions about the nursing care plan as a proxy for science education instruction goals.

University of Edinburgh professor W. H. McDowell's (2002) approach to historical research and historical research methods was the main guide for historical inquiry into past nursing student characteristics, nursing instruction, and the instruction tool of nursing care plans. Analysis of various nursing education textbooks from determined time periods occurred with Colaizzi's (1978) guidelines. From this phenomenological analysis, theme clusters were developed. As a final step, analysis of the theme cluster "learning objectives" derived from nursing care plan textbooks was conducted using Benjamin Bloom's revised taxonomy (Anderson et al., 2001). To aid in the final phase of the study using Bloom's revised taxonomy, Dr. Richard Overbaugh's (2008) work on verbs associated with analyzing and creating objectives according to Bloom's revised taxonomy were utilized. Narrative descriptions and conclusions were drawn regarding this final analysis of nursing care plan learning objectives. The intent of these data collection and analysis processes was exploratory, descriptive, and informative.

Theoretical Framework

Because of the predominantly historical nature of this study versus emphasis on the secondary phenomenological nature, the theoretical framework guiding the historical research was discussed. To understand the wholeness of the past, nurse historians select a framework to guide their individual study because there are many ways to study the past, and one needs a starting point which fits with one's aspirations of research. Interestingly, Howell and Prevenier (2001) believe depending on the framework used, the understanding of historical data will differ. A variety of theoretical frameworks exist in which nurse historians can structure their historical studies. For example, they may select from theoretical approaches such as biographical, social, or intellectual histories (Speziale & Carpenter, 2007). When the researcher structures her historical research with a biographical history, the historical narrative would center on the study of an individual during an era that the researcher finds interesting. If she used a social history, she would unveil a particular period and attempt to understand the prevailing values and beliefs by examining the everyday events of that period. Finally, if she conducted her research using an intellectual history, she would analyze the event of thinking (Brown, D'Antonio, & Davis, 1991).

Given that nursing education should produce critical thinkers as graduates, it makes for an interesting study to evaluate an instruction tool that has been used in education of nurses for greater than 80 years. Using an intellectual historical approach as the theoretical framework to guide this study, the researcher explored the history of thinking or tools which elicit thinking over time. This researcher, after long contemplation of her beliefs and assumptions about nursing education through personal experience as a nursing student and now as a nursing instructor felt an intellectual historical approach would best serve the purpose of this study.

Some of the researcher's beliefs and assumptions about nursing education are the following: (a) an academic environment that promotes critical thinking and embodies life-long learning will produce safer, more dignified nurses with a sense of empowerment gleaned from their education; (b) learning tools can create excitement and facilitate the learning process if used in a way that is physiologically supported by the brain and made interesting to the senses; and (c) learning has to be experienced to be known. Further, the intellectual history as a theoretical framework allows the nursing care plan to be viewed as a historical and current instruction tool which was originally introduced to elicit higher order thought processes in nursing students and in practicing nurses. Educators continued use of nursing care plans calls for an understanding of the initial objectives of a nursing care plan and if these objectives have changed or remained the same from its inception to present. By using the intellectual history of nursing care plans as the theoretical framework of this study, the researcher developed the subsequent design which involves predominately historical and secondarily, phenomenological research methods

Research Design

As briefly mentioned, a combination of qualitative methods, historical methods and phenomenological methods, were utilized in this study. Using more than one qualitative method to study complex phenomena is not uncommon among nurse researchers. However, few studies where researchers combined the two specific methods of historical and phenomenological methods were found in nursing literature. Two examples of this combination appeared in a European research journal and, the other, in a scholarly book. In the European journal, Johannessen (2006) offered an interpretation of the combination of historical and phenomenological approaches to explore holism and post-war nursing education in Norway. She analyzed nursing education with the themes of: (a) holism in humankind, (b) holism in nursing

theories, (c) holism in cooperation between different professions, and (d) holism as a distinctive character of nursing. She employed phenomenological methods to explore both patient and nurse experiences. Ramsamy and Seevalingum collaborated with the University of Sheffield Department of Mental Health and Learning Disability (2001) on the book, *Caring for madness: The role of personal experience in the training of mental health nurses*. The methods followed existential phenomenological research as the researchers addressed the issue of 'madness' and caring and used historical methods to present the results in an historical narrative. While not seen extensively, this particular combination of methods has certainly been documented, and the researchers received merit for their studies from peer review.

In the first phase of this combined methods research, archival data regarding the phenomena of nursing education instruction and nursing student characteristics were historically collected and analyzed. Based on this Phase one data and textbook recommendations from respected archivists, the researcher began Phase two of the research study. Phase two began with a literature review on nursing care plans from 1890 to present, this literature review helped the research to determine time periods of significance in the evolution of nursing care plans. Using the determined time periods and availability of sources, historical textbooks about the nursing care plan were elicited from archival sources. Next, in the second phase, where the researcher focused on nursing care plans, a phenomenological method was used to analyze the textbooks' words about nursing care plans. In the last step of Phase two, Bloom's revised taxonomy (Anderson et al., 2001) was applied to the theme cluster "learning objectives" which emerged from phenomenological analysis. In summary, Phase one historical data collection and analysis led to a more specified topic of nursing care plans. Time periods of significance for nursing care plans were determined and specific textbooks from each time period were chosen. Care plans as

a proxy for instructional goals described in historical textbook were analyzed using Colaizzi's (1978) guidelines for phenomenological analysis. Lastly, the theme cluster, "learning objectives", was analyzed with Bloom's revised taxonomy (Figure 4).

Historical Research Method

McDowell (2002) suggests that an historical approach to research is pertinent when the researcher aims "to look for connections between events so that a meaningful pattern or structure can be discerned" (p. 77). Furthermore, McDowell asserts, "we instinctively try to locate events in time and often make contrasts between past and present, perhaps hoping that knowledge of the past will help us make informed judgments about the present" (p.3). In establishing an historical foundation of how instruction methods came to fruition and in focusing on the most consistent and often used instruction tool, the nursing care plan, this researcher hopes that improvements in instruction can occur which would help one understand the cognitive processes that instruction tools elicit.

An historical approach is also appropriate for this researcher as McDowell (2002) has these suggestions for historian qualities: (a) curiosity, (b) initiative, (c) motivation, and (d) commitment. Lewenson and Hermann (2008) suggest that what triggers our interest and "professional metamorphoses" in becoming nurse historians may be as simple as "travel, chance meetings or introductions, and happenstance" (p. 3). This researcher is passionate about reading and understanding life through back stories, this passion naturally led to historical research. Also, the researcher's ability to become familiar with concepts, language, and technical terms which are appropriate to nursing history, and her ability to analyze a topic or theme from different perspectives help provided a genuine and original contribution to knowledge.

Phase One: Historical Data Collection and Analysis

Step 1: Secondary sources reviewed to determine focus of historical inquiry and data collection

Step 2: Topics of nursing student characteristics with description of time period and the corresponding nurse education instruction tools evolved

Step 3: University of MD Living History Museum - Historical data collection and simultaneous analysis

Step 4: Continued archival data analysis with resultant narrative summary by time period

Step 5: Consideration of findings, consultation with archivists, and determination of focus for Phase II - a textbook-based study of nursing care plans

Phase Two: Historical Data Collection and Analysis, Colaizzi's (1978) Guidelines, Bloom's Revised Taxonomy (Anderson et al., 2001)

Step 1: Collection and analysis of archival data to determine relevant time periods for nursing care plan.

Step 2: Collection and analysis of archival textbook from determined time periods.

Step 3: Narrative summary of nursing care plans, student characteristics, and healthcare context.

Step 4: Colaizzi's (1978) guidelines applied to textbook of each textbook regarding nursing care plans.

Step 5: Application of Bloom's Revised Taxonomy to theme cluster "learning objectives."

Figure 4. Design Layout.

Lynaugh and Reverby (1987) have warned that no one formula or specific method exists for doing historical research. The eminent historian William H. McNeill (1976) explained historical research methods to a group of social, physical, and biological scientists. He described his approach as this:

> I get curious about a problem and start reading up on it. What I read causes me to redefine the problem. Redefining the problem causes me to shift the direction of what I'm reading. That in turn further reshapes the problem, which further redirects the reading. I go back and forth like this until it feels right, then I write it up and ship it off to a publisher. (p.12)

Cramer (1992) adds that history is a discipline with many structures and permanent or semi permanent relations of elements which determine the character of the whole. Tholfsen (1977) and Lusk (1997) add even though no one theoretical framework exists for the study of history, some methodological consensus exists. Therefore, Speziale and Carpenter (2007) suggest superimposing structure to enable the researcher to organize data. One suggestion was to use a set time period in which to organize a study or even use a particular topic. The structure of this study became guided by the particular topic of nursing care plans. Initially, the broad concept of nursing instruction was the focus of historical inquiry, but as the initial phase of historical analysis was performed during the literature review, the study turned toward the more specific nursing care plan. Using the particular topic of the nursing care plan as an instruction tool was the structure of this research project.

To add further rigor to the historical research method, certain commonalities were found in all interpretations and variations of the historical method (Lewenson & Herrmann, 2008; McDowell, 2002; Speziale & Carpenter, 2007).

These include:

1. Identify key themes, issues and objectives through preliminary reading of existing secondary sources and discussions with key note individuals.
2. Index relevant source material to produce a working bibliography and assess if more sources are needed.
3. Assess whether work will be primarily based on extensive literature searches or involve other sources.
4. Making informed decisions about the type of historical evidence intended for use in research such as primary versus secondary sources or letters and diaries versus photographs.
5. Examine and evaluate documentary evidence.
6. Prepare research notes which evolve into written material of historical narrative.

McDowell's (2002) method coincides nicely with nurse historians', Sandra Lewenson's and Eleanor Herrmann (2008), steps in "doing" historical research (p. 274). The steps are as follows: (a) identify area of interest, (b) raise questions, (c) formulate title, (d) review literature, (e) interpret data, and (f) write the narrative. Both scholars believe the narrative is the final product of historical research.

According to Hofstadter (1959), the historical narrative as data interpretation tells a story but often is disappointing and lacking in application. Moreover, the historical monograph resembles a scientific inquiry but lacks literary style and frequently offers insufficient analytic data. However, both functions are enriched by interrelating social sciences and historical inquiry, and this combination produces fresh ideas and new insights into human behavior (Hofstadter, 1959). To this end, a portion of the literature review contains narrative about instruction tools and

student characteristics during incremental time periods. After the research contemplated the historical narrative in Chapter two, the literature review, and considered the findings, a second phase of historical analysis was conducted. In Phase two, the evolution of the care plan was traced through time periods. From a selection of historically appropriate nursing textbooks, text was analyzed and embedded theme groups were developed using Colaizzi's (1978) guidelines. The final narrative product was derived after analyzing the theme cluster "learning objectives" using Bloom's revised taxonomy (Anderson et al., 2001) to gain richer insight into the nursing care plan's quality as an instructional tool.

Historical Operations

Several operations are essential to historical investigation, they are: (a) sensitivity to material, (b) genuine engagement in the subject, and (c) balancing the forces of self, societal, and historical interest. Historical investigation results in the researcher making historical judgments. These judgments are based on historical evidence passed through the filter of what Cramer (1992) refers to as the "human understanding of human experience" (p. 7). For this process to occur researchers have to be sensitive to material, show genuine interest and engagement in the subject, and, as mentioned, balance forces of self, societal, and historical interest.

In this study, the researcher became sensitive to the details of each historical period. This awareness naturally led to a professional and scholarly engagement as evidenced by this research project and through voluntary involvement in curriculum committees. Biases related to the researcher's perspective as an educator and a clinician consist of the awareness that instruction tools in nursing education are seldom up to date, are not perceived as essential to patient care, and often are completed only when accreditation visitors are coming. Being aware of these biases, a balance of self, society, and historical interest was solidly formed.

Ethical Considerations

Researchers must have a clear idea of the kinds of information they need to obtain from data to decipher the right to privacy versus the right to know (Speziale & Carpenter, 2007). Sources from archives are the responsibility of the archivist for seeing that "policy, regulations, and rules-governing the archivist actions do exist and are effective" (Rosenthal, 1982, p.4). However, scholars are ultimately responsible for using data appropriately. According to Graebner (1982), when determining how to use data, "decisions, events, and activities which affect the public welfare or embrace qualities of major human interest-and thus add legitimately to the richness of the historical record-set the acceptable boundaries of historical search and analysis" (p. 23). Confidentiality of source material has become more of an ethical concern for historians as researchers have placed greater emphasis on the lives of ordinary people. Nurse historians Birnback, Brown, and Hiestand (1991), members of the American Association for the History of Nursing, have published ethical guidelines as well as professional standards for doing historical inquiry in nursing. These guidelines were used as an initial reference midway through the study and again in writing study results.

Genuineness and Authenticity

Stemming from an examination of diverse, relevant source material, historical research becomes a systematic inquiry into the past and "an attempt to separate true from fictionalized accounts of historical events" (McDowell, 2002, p. 23). The quality of historical analysis depends, to a significant extent, on the availability, careful use, and proper documentation of source material. McDowell (2002) suggests primary resources that were compiled at the time specific events occurred are "deemed to possess a higher status than any item written at a later date" (p. 30). Barzun and Graff (1985) explained that historians are responsible for verifying

documents to ensure they are genuine and authentic. *Genuine* means that a document is not forged while *authentic* means that the document provides the truthful reporting of a subject (Barzun & Graff, 1985). Fortunately, historical researchers suggest primary sources within archival collections have already been found to be genuine and have been authenticated by the institution in which they are housed. Nevertheless, researchers are responsible for the final authenticity of a document which can be verified through careful reading, examination, and knowledge of the time period (Speziale & Carpenter, 2007).

Phenomenological Research Method

Phenomenology provides a unique framework for a focus on the construction of human meanings, and as a research method is concerned with producing systematic descriptions of the essence and meaning of experiences (Polkinghorne, 1989). Colaizzi (1978) describes phenomenology as a fluid process with many components. Certain commonalities to phenomenology that are found in the literature and called for in this study are:

1. Perception and probing of the phenomena for typical structures or "essentials" and for the relationship of the structures.
2. Giving attention to the ways phenomena appear in different perspectives or modes of clarity.
3. Suspending belief in the reality or validity of the phenomena (bracketing).
4. Interpreting the hidden or concealed meanings that are not immediately revealed to intuiting, analyzing, and describing. (Spiegelberg, 1975)

According to Brennan (1992), several phenomenological studies of nursing phenomena utilizing Colaizzi's (1978) approach to data analysis have been reported in the nursing literature which pertains to both nursing practice and education. Among the nursing research studies

citing Colaizzi's method of phenomenology are Riemen's (1986) study of caring interactions, Nelms' (1990) study of the experience of being a nursing student, and Streubert's (1989) study of the meaning of clinical experience. Again, as previously mentioned, some nurse researchers have described borrowing and combining qualitative approaches. Examples outside of phenomenology and historical methods are: Swamsom-Kaufmann (1986) combined grounded theory, ethnography, and phenomenology to develop a nursing research methodology for her study of the human experience of miscarriage.

As expected in qualitative research, the nature of exploring an entity from a historical perspective not yet taken lends to a broad net of data gathering. The phenomenological method of analyzing the teaching tool of care plans followed a process of data analysis for qualitative research which essentially consists of patterned inductive reasoning. While the textbook are not lived experiences, which is a feature of phenomenology, the researcher believed Colaizzi's (1978) guidelines provided a systematic, yet non-judgmental way of further approaching the words within the textbooks. The non-judgmental manner was appropriate because in the search for true meanings and in the attempt to bridge identified gaps, researchers must be aware not only of their own bias and the effect of ideology, but also of bias found in the sources themselves that may impede interpretation (Speziale & Carpenter, 2007). Although the researcher did not conduct interviews, she treated the historical data was treated as transcripts of interviews would be treated using Colaizzi's (1978) guidelines.

Phenomenological Operations

Bracketing, intuiting, analyzing, and describing are several operations essential to phenomenological investigation (Spiegelberg, 1975). Beginning with an examination of her involvement with the phenomena, the researcher then took her presuppositions and assumptions

about the phenomena and "bracketed" them and then set them aside in order to discover the experience being investigated. The researcher previously discussed her biases and the biases related to her perspective as an educator and a clinician consist of the awareness that instruction tools in nursing education are seldom up-to-date, the awareness that care plans are not perceived as essential to patient care, and the awareness that care plans are completed only when accreditation visitors are coming. Aware of these biases, the researcher consciously set them aside to recover the original intent of nursing care plans as instruction tools. The acts of making journal entries, reviewing journal notes, and giving attention to openness or various possibilities of relationships aided the researcher in maintaining bracketing.

An accurate interpretation of what is meant in the description of the phenomenon under investigation is intuiting. In phenomenological research, the intuitive process results in a common understanding about the phenomenon under investigation (Speziale & Carpenter, 2007). To accomplish intuiting, the researcher must vary data and fully immerse oneself in it until a common understanding about the phenomenon emerges. In this study, through immersion in the phenomenon, the researcher established a social, cultural, and economic context of the time period for each textbook on nursing care plans. Immersion was maintained through frequent reference to the historical narrative in the literature review and research notes taken during Phase one data analysis.

Phenomenological analyzing is making sense of the data which has been collected in pursuit of answering the researcher's questions. According to Polkinghorne (1989), *analyzing* is movement from raw collected data to an accurate, clear, and informative structural description. Procedural guidelines do exist for analyzing but there are no steadfast rules. This research

followed Colaizzi's (1978) guidelines for phenomenological analysis and adapted it to using textbooks as data sources:

1. Read all of the text regarding nursing care plans in each textbook to acquire a sense of the whole.
2. Extract significant statements and phrases pertaining to nursing care plans from the textbook.
3. Formulate meanings from the significant statements using creative insight.
4. Repeat the above steps for each textbook.
5. Organize meanings into themes, these themes evolved into theme clusters, and eventually into theme categories.
6. Formulate the essential structure of the phenomenon.
7. Validate the fundamental structure of the phenomenon by returning to the textbook for verification. (p. 58-62)

Reflecting on words of textbooks and honing in on the essential point of each line is how the researcher formulated meanings from the significant statements. Each theme that emerged from the formulated meanings were compared and contrasted, negated through imagination, and examined through the processes of analogy and metaphor, moving back and forth between the concrete and the abstract, until relationships among the themes emerged. The relationships among themes common to all of the textbooks were aggregated into theme clusters.

Describing this operation reveals distinct elements of the phenomenon. Ultimately the description evolves through classifying or grouping of the phenomenon, resulting in an exhaustive description, then resulting in the fundamental structure and meaning of the experience (Oiler, 1982). The fundamental structure, as a final step of Colaizzi's phenomenology, is a clear

and accurate statement about the reader's experience through textbooks, in this case, of developing and writing nursing care plans.

Phase One

Site Selection

The process for deciding on the University of Maryland School of Nursing Living History Museum in Baltimore involved recommendations from the American Association for the History of Nursing (AAHN) and McDowell's (2002) suggestions for legitimate site selection. McDowell (2002) and AAHN (2007) suggest that the purpose, range, and usefulness of source material determine the quality of a research project. Primary sources extend the boundaries of historical knowledge, and secondary sources provide mainly background knowledge. Historical research should involve a variety of primary and secondary sources (McDowell, 2002). Primary source material includes original material and eyewitness testimony which has not been subject to interpretation by other historians. Examples of primary source material are: (a) official papers, (b) diaries, (c) letters, (d) minutes, (e) memoranda, and (f) taped interviews. Secondary sources are generally published as books, pamphlets, or articles (McDowell, 2002).

The AAHN (2007) encourages all nurses to support nursing archives and history centers because they preserve the profession's heritage, the AAHN provides a list of recommended sites. University of Maryland School of Nursing Living History Museum in Baltimore was suggested as one site. It is a permanent museum documenting the evolution of Maryland's largest and oldest continuously operated school of nursing. Archives range from its founding as a hospital training school in 1889 to its leading presence as a research institution in modern day which, "transcends its institutional roots to offer an evocative depiction of modern American nursing" (AAHN, 2007). Further justification for this site, rather than others such as The Museum of

Nursing History in Pennsylvania and the American Museum in Nursing, were: (a) the knowledgeable curator, (b) the ability to access unpublished archives, (c) the school's current NLNAC accreditation, and (d) the living docents who were available for questions. In contrast to this extensive, rich archive collection, the Pennsylvania site had a specific psychiatric nursing emphasis and was based out of a psychiatric hospital. The other alternative, American Museum of Nursing, had a small collection in comparison to the Living History Museum and was a collection alongside many other collections.

After these considerations from McDowell (2002) and AAHN (2007), great efforts were made to collaborate with the curator at the University of Maryland School of Nursing Living History Museum in Baltimore, Maryland. The museum was deemed by the researcher as one of the nation's only museums dedicated to the history of nursing and that housed well-archived and documented primary sources of data. This museum is one of the only museums dedicated solely to the past and present nurse profession in the United States. After contacting the museum's curator, Jennifer Ruffner, an appointment was made to have full access to the museum's archives.

Data Sources

The first phase of historical methods was presented as a component of Chapter two, the literature review. The time period for data collection began unofficially and very briefly with 250 BCE and was conducted through CINAHL and EBSCO host. This is an early point where very little documentation was found, but the date served as a reference point. The historical data found and used was brief and sparse up to the late 1800s when nursing education became formalized and based out of hospitals. Here is where the Living History Museum archives played a vital role in data sources. As a result, the official period and place studied was

American nursing from 1890 to 2000. This time frame was chosen because of the accessibility of data from a wide variety of sources. Discussions about students and nursing instruction were traced through various sources of nursing literature and archives.

Collected from the Living History Museum were predominately primary sources of archival data which were the following: (a) official papers from nursing administration, (b) diary entries of nursing students, (c) letters from nursing students to parents, letters from school administrators to students, (d) memorandum of textbook, hospital equipment, student uniforms and a vast array of other memorabilia, (e) photographs, (f) recorded interviews of students, and (g) minutes from nursing administration meetings. Many firsthand accounts of experiences of students, tactics of educators for instruction, and meetings of administrators were encountered through these primary sources.

Secondary resources are "written records compiled by eyewitnesses," and these sources will not necessarily have to contain original thought (McDowell, 2002, p 22). These records are mostly written by people who were not present at the events which they describe. Secondary sources specific to the researcher's interest were challenging to access because of the various ways in which the students were described and because little attention was given to instruction. Secondary sources were journal articles, textbooks about nursing history, brochures about schools' programs and written narrative from Living History Museum's museum curator. The sources were allocated from (a) OLOLC Library, (b) Louisiana State University Middleton Library, (c) EBSCO Host, (d) CINAHL, (e) Living History Museum, and (f) Louisiana State University Health Sciences Center Ische Library.

Data Collection and Analysis

To focus data collection, the researcher conducted an initial examination of secondary sources regarding nursing instruction and nursing students. McDowell (2002) suggests this will provide background knowledge about the subject, as well as give some indication of how other historians have approached the same topic. Research questions were not initially made too specific which made choice of source material abundant. Hence, the initial question of understanding tools used for nursing instruction and the students who were educated was left open so the history could essentially "fill in the blanks" and steer the research into its natural course which was analyzing the specific tool of the nursing care plan.

The curator gave the researcher sole occupancy of the archival collection. Pictures were taken with permission for later reference, notes were taken on displays, time was allotted for document review, and photocopies of primary and secondary sources were made for later reference.

There was no consistent use of terms or topics to aid in quickly accessing data. However, the curator was able to locate materials of interest with ease. Some materials had not been placed on display in the museum as of April 2009 because the documents were recently received from family members. However, the researcher was allowed two full days to access these documents where she used the aforementioned techniques to ensure genuineness and authenticity.

Through reading and interpreting primary and secondary documents, a picture of the history per time period gradually evolved. Dealing with difficulties of large quantities of data, elusiveness of instruction and student descriptors, McDowell's (2002) three research approaches were useful in analyzing the data:

1. Identifying common or similar instruction tools and characteristics of nursing

students during various eras, aided in the search of the resources.

2. Tracing a student or instruction method theme backward through time was an effective technique to find the data.
3. Researching the literature in "five to ten year increments" aided in the identification and writing about the history. (p. 31)

Decisions had to be made regarding whether the content of a document, or author's signature, or the date were accurate. It was essential to be critical but not overly critical as McDowell (2002) believes falsification of documents is not as widespread as believed. No documents were deemed false or falsified.

While attempting to clarify student characteristics of the past and instruction methods, the researcher was unable to find a study which addressed the problems presented. Extensive sources have been reviewed, and few if any focus on how instruction occurred, and what characteristics of students determined or influenced the instruction. To the best of this researcher's knowledge, the historical analysis was unique and will largely contribute to the body of nursing knowledge.

Data Analysis

As detailed above, analysis occurred throughout the process of data collection while on site at the Living History Museum and afterwards when the researcher reviewed the sources exhaustively. Initially, research notes were constructed with the review of each source. Taking notes and extracting relevant material later provided a foundation of the historical narrative, only relevant information from source material was extracted, the researcher carefully balanced summarizing ideas without being too concise or too lengthy. For example, in University of Maryland's circular of information published in 1924, rather than writing the information

verbatim into research notes, the researcher read the brochure in its entirety several times, observed the pictures and language, then took notes on specific characteristics the school sought for its students, the teaching methods mentioned, and details about the time period gleaned from analyzing the brochure. Creating, revising, and referencing research notes were an integral part of writing the historical narrative from the first draft to the final draft. Organization of research notes and documenting sources is detailed under data management.

From detailed research notes, a first draft of the narrative timeline was prepared. Beginning a first draft before research notes are completed is supported by McDowell (2002), he suggests, "the writing of a draft often leads to the emergence of new ideas and new lines of inquiry" (p.134). The goal of this first draft was to establish the descriptive element and essential structure of the phenomena under investigation. Within the first draft, the researcher created a separate narrative per time period for student characteristics and instruction tools for nursing education. After continued review of the draft with simultaneous review of research notes and editing of research notes, narrative flowed more easily for each time period which discussed student characteristics and instruction tools together.

Combining the two narratives would be what McDowell (2002) refers to as chronological and thematic approaches. A chronological approach only traces the development of historical events in a chronological sequence which alone can be arbitrary and simplistic (McDowell, 2002). Thematic approaches trace one event at a time, and, therefore, the narrative divided themes of student characteristics and subsequent instruction tools into sub-periods, or as the researcher has referred to it as time periods. Here, the researcher's reflections on simultaneous evolution of students and instruction were more clear and logical with a balance between description and analysis.

In concluding Phase one, a historical narrative from 1890 to present became a substantial part of the literature review in this dissertation. Through the Phase one historical narrative, the researcher uncovered more questions about nursing instruction tools and consulted with keynote librarians about how to proceed. Phase two was the result of further inquiry and expert feedback.

Data Management

A key task for this phase of research was to construct a working bibliography of source material and, establish, organize, and maintain research notes. The bibliographic log was kept electronically in a word document. Each entry included full biographical details and were initially saved alphabetically then incorporated into the study's reference section. For those sources which had the same author, they were further classified chronologically as seen in the reference section.

In constructing research notes throughout data analysis, the researcher chose to use 81/2 x 11 wallet folders to organize data extracted. The folders were labeled with a specific topic and chapter in which the researcher felt the data would apply. This was the most practical and flexible option for preparing research notes as the folders were easily portable and topics could easily be filed. Topics included: student characteristics, context of time period such as war, economy, disease epidemics, and common instruction methods.

Unfamiliar information that needed more research was highlighted to alert the researcher to return to the subject for further clarification. For instance, the researcher had some familiarity with Brown's (1948) report on the future of nursing but was unfamiliar with her recommendations. Therefore, any mention of Brown's report through note taking was highlighted. Further, quoted excerpts or paraphrased material were placed in quotation marks

with the source clearly documented. The researcher did not put the full reference in the notes as the full reference was located in the bibliography.

Phase Two

Nursing Care Plan as Proxy

Through the first phase of historical analysis, the nursing care plan was an instruction tool that has remained consistent through most of nursing's history. In the initial phase, research questions were broad, and the care plan was not the focus. However, because of the consistency of discussion and the researcher's personal experience with its frequent use, the care plan was determined to be a gauge of nursing instruction and what nursing education holds valuable.

Schools of nursing must undergo accreditation by a national accrediting body in order to recruit, educate, and graduate students eligible to take the national licensing exam for nurses. The National League of Nursing is one of the major accrediting bodies and in 1937 introduced the care plan as a viable instruction tool for nursing curriculum. The care plan was termed the *case study method* at the time and was adapted from the work of Deborah Jensen in 1929.

Historical Data Collection and Analysis

To determine time periods for textbook selection, a literature review was conducted for previous historical studies regarding the nursing care plan. Few studies were found after an extensive search of EBSCO Host, CINNAHL, and consultation with the Our Lady of the Lake College inter-library loan librarian. Two studies were found to be thorough and pertinent to this study. Ciuca (1972) and Brennen (1992) have published two of the most extensive and most recent qualitative studies of the care plan. Ciuca (1972) discussed the care plan as having three phases: (a) a means of communication, (b) a professional assessment, and diagnostic tool, and (c) incorporation of a multidisciplinary approach. These periods occurred near and around late

1930s to 1940s, after 1960 and at the time his study was published, the 1990s. Ciuca's approach was centered on putting the care plan into practice rather than the focus of this study which is the care plan as a teaching tool.

Brennen (1992) conducted an exploratory study of the lived experience of nursing students with the phenomenon of developing and writing nursing care plans. She provided a historical background of the extensive use of a care plan as justification for the study. In the historical background, she references the time period of late 1920s when Jensen began her writings of nursing case studies, the 1950s to 1970s where the care study was renamed as the care plan and, at the time of her study, the 1990s where she believed a discrepancy existed between "expected and actual skills in developing and writing nursing care plans among practicing nurses" (Brennen, 1992, p. 33). However, her study differs from this study in that she aimed to understand students' experience of executing a care plan rather than what they may have learned from the care plan process.

After reviewing these secondary sources and taking research notes, McDowell's (2002) technique of historical data analysis where secondary sources are examined without finalizing the primary sources was used. This was a reasonable approach as the researcher was uncertain which textbooks would be accessible. However, a good understanding of relevant time periods was determined from the final historical narrative from each article. From the synthesis of the two studies, the three time periods of 1920s to 1940s, 1950s to 1970s, and 21st century.

Selection of Textbooks

After collaboration with the Living History Museum curator, Our Lady of the Lake College librarian, Yale University Museum curator, Boston University Museum curator, and LSUHSC reference librarians, using textbook of nursing as the source of data for care plan evaluation was

deemed the most valuable and accessible. Since historical student care plans were unavailable through the aforementioned archival collections, they were not an option as data sources. By utilizing the textbooks, the researcher could evaluate how and what the nursing care plan aimed to teach.

Using the various librarians and curators as a reference for determining which textbooks had been keynote for the time period and reviewing previous studies on care plans, the exact textbooks were decided upon based on frequency of referencing, more than two publications, and availability. Through WorldCat®, and Amazon.com® archival sources, the following textbooks were purchased and collected as source data: Jensen (1929a) *Student's Handbook on Nursing Case Studies*, National League of Nursing (1937) *A Curriculum Guide for Schools of Nursing*, Harmer and Henderson (1939) *The Principles and Practice of Nursing*, Kron (1966) *Nursing Team Leadership*, California Department of Public Health (1970) *Guidelines for Nursing Care Plans*, Potter and Perry (2009) *Fundamentals of Nursing*, and Ackley and Ladwig (2008) *Nursing Diagnosis Handbook: An Evidence-Based Guide to Planning Care*. The first three textbooks represented the time period of 1920s to 1940s, the next two textbooks respectively represented the time period of 1950s to 1970s, and the last two textbooks represented the time period of the 21st century

Phenomenological Data Collection

These multiple textbooks revealed an understanding of nurse education's central goals via the nursing care plan as an instructional tool. In the first interaction, the researcher read the text pertaining to care plan discussion. The researcher maintained a journal throughout the collection and analysis of data. In the journal, the researcher included descriptive data related to textbook variables such as appearance of textbook, manner in which nursing care plans were introduced,

scholars mentioned in the introduction of the textbooks, and any other contextual variables which the researcher felt might be helpful in interpreting meaning. The phenomenological reflections of the researcher, as she examined and reviewed the raw data, were recorded in the journal as theoretical insights. The researcher also noted initial impressions of the key themes of the textbooks while reading, and these metacognitive thoughts were helpful in recognizing data saturation, as well as providing an ongoing form of bracketing.

The second interaction with each textbook was to re-read the text to ascertain an understanding of the whole message the textbook portrayed about care plan development and its role in student education. A third interaction with each textbook occurred following the same review process.

In the first interaction, each individual textbook lasted between three to five hours a day with two to three days per textbook. At the end of each initial interaction, the researcher set a time within one week to perform a second interaction as the data would be still fresh and new. The researcher also isolated previously collected historical data on student characteristics and historical context of the nursing school from the literature review for each time period of 1920s to 1940s, 1950s to 1970s, and the 21st century. This allowed the researcher to have a visual and conceptual understanding of student and school context during the time period for each textbook. The researcher was able to develop an insider's view of educational goals for that particular time period.

Prior to the date set for the second interaction with each textbook, the researcher reviewed journal notes and reflected on possible themes that were developing from the textbook. She also looked at specific characteristics of students for each time period as isolated from the literature review to gain an understanding of the audience for the textbook. To understand the context of

earlier times in nursing education, the researcher kept in mind that nursing schools were hospital-based versus collegiate based and this also guided instruction of skills and theory.

Although the second interaction was expected to be shorter than the initial interaction, it lasted approximately the same amount of time, anywhere from three to five hours for two to three days per textbook. The length of the second interaction reflected the interpersonal engagement achieved by the researcher with each time period (Polkinghorne, 1989). At this interaction, the researcher began writing verbatim sentences that pertained to nursing care plans. During the third interaction with each textbook, which was less than a week from the end of the second interaction, the researcher continued transcribing verbatim sentences that reflected nursing care plan discussion. Again, the length of the third interaction with each textbook did not change as the researcher was meticulous about extracting all sentences that pertained to nursing care plans.

The period of data collection for this phase of the study was the spring semester of the 2009 to 2010 academic year. Data collection took place over a two month period in the spring semester, ending in mid-April. The rationale for ending data collection at this time was saturation of data, with repetition of themes apparent. The researcher had more than 170 hours of in-depth contact with the textbooks at this point. A total of seven textbooks were reviewed.

Data Management

These data collection procedures produced a voluminous amount of typed data. The verbatim notes taken from the textbook resulted in 23 pages of single-spaced, 12 point font, typed pages. The data was stored on hard drive and jump drive. The researcher compared the verbatim transcription back to the textbook for accuracy. Other data management techniques included

making duplicate jump drives of the data and storing them in a separate location to prevent a loss of data. Photocopies of the journal were stored separately as a backup in case of mishap.

Colaizzi's Method

Data Analysis

Colaizzi's (1978) guidelines for protocol analysis provided the framework for this data analysis. The researcher read and re-read text specific to nursing care plans at least four times through for each textbook, then repeatedly for particular sections regarding care plans. Significant statements pertaining to the phenomenon of developing and writing nursing care plans were extracted verbatim from each textbook by underlining the statements throughout text and entering the actual significant statements in a new file using Microsoft Word®. The significant statements from each textbook were then printed and compared side by side. Although Colaizzi (1978) suggests ongoing elimination of duplicate statements as each data source is reviewed, the researcher opted to perform this step after all seven textbooks had been reviewed and all significant statements identified.

The initial unit of analysis resulting from the first level coding consisted of 316 significant statements extracted from the textbook (Appendix A). The Word documents containing the individual significant statements and formulated meanings were reviewed by each specific textbook and then by all textbooks collectively. The formulated meanings were sorted into themes. Duplicate statements with similar formulated meanings were grouped together. The researcher was able to quantify the data in this way. For example, statements related to the learning objectives of writing a care plan was repeated 105 times by all seven of the textbooks. This reduction through elimination of duplication yielded 75 significant statements (Table 2).

Table 2. Significant Statements and Formulated Meanings of Learning Objectives

Significant Statement	Formulated Meaning
1. In schools where the case study method has been used successfully, student nurses have been more interested in observing their patients and in comparing, analyzing and interpreting the facts about them.	1. Instill interest of the individual patient on the ward experience which will improve nursing care given to each patient.
2. The greatest hope for this method of studying is that the student will acquire a new and valuable approach to the study of the patient which will enable her to continue her growth in knowledge and appreciation not only of nursing, but of the patient as an individual.	2. Case studies encourage a disposition of lifelong learning and instill value of the patient as an individual.
3. Use of the case study will take emphasis away from the technical aspects of nursing.	3. Case studies will apply knowledge rather than emphasize skill acquisition.
4. The nurse should be instructed in scientific and clinical knowledge and develop technical skill.	4. Give the more important underlying scientific data that serve as a basis for selecting or designing each nursing intervention.
5. Students become more interested in the individual patient when the ward experiences are approached in this method (case study), and that the nursing care given to each patient is improved.	5. Case studies are tools that translate theoretical knowledge into practical knowledge which improves patient care.
6. She must have a real interest in the patient as an individual	6. Through the case study, she will develop a greater interest in all patients.
7. Using the case study method allows a focus on the whole patient to make each care more personal and complete; it will be a gain in teaching and practice of nursing.	7. Study each patient as a whole enabling more intelligent and sympathetic nursing care.
8. Through communication with community agencies, the nurse will gain much valuable information.	8. Through communication, the student identifies valuable patient data.
9. To develop powers of observation	9. Develop powers of observation.
10. Through studying a few patients in-depth, the nurse will develop a greater interest in all patients and she will also develop a certain technic in investigative nursing problems and assembling data.	10. Develop a technic in investigating nursing problems and assembling data.

(table continued)

Significant Statement	Formulated Meaning
11. The nursing case study will create a vivid picture of symptoms, course and treatment of disease.	11. Students will develop an understanding of pathophysiology.
12. It will help the nurse to see her function as a health teacher not only to the patient but to the visitors on the ward.	12. Develop awareness of the opportunities for health teaching on the ward.
13. To emphasize the importance of understanding the treatment	13. Emphasize the importance of understanding treatment.
14. To be aware of the opportunities for health teaching on the ward	14. Develop awareness of role as nurse educator.
15. Student must be able to understand report and accurately record the development of new symptoms.	15. Hone abilities to compare, analyze, and interpret facts about patients and illnesses.
16. Compare the lab findings listed with the normal	16. Differentiate normal values from abnormal values.
17. The entire medical picture as it develops in the hospital is presented in the chart and is made intelligible to the nurse by her scientific background and observation at the bedside.	17. The individual nurse makes chart data more meaningful by applying knowledge.
18. Nursing and medical history should be well established first	18. To start a case study, understand nursing and medical history.
19. Through the self experience, the student should not only develop judgment concerning her own health problems but develop responsibility toward the prevention of others from infection when she is ill.	19. Through self experience of illness, student will develop insight for how others are affected.
20. She should know how the community is meeting the needs of its members: shelter, health, employment, and education, and recreation, spiritual and aesthetic needs.	20. The nurse should understand the role of the community for individuals.
21. In every contact with patients the nurse in the hospital should study the social significance of the disease.	21. The nurse should understand how disease affects community.
22. Collecting and interpreting data.	22. Data is not only collected but interpreted.
23. Emphasize data that has particular significance for the nurse	23. Distinguish significant patient data.
24. Note the action of all treatment, medicines or diet on the symptoms	24. The nurse must understand each treatment, medicine, or diet effect on symptoms.
25. In selecting medical and social information the student will remember that it is to be the background for a detailed discussion of all nursing aspects.	25. Case studies require analysis of data which is important to establish background.

(table continued)

Significant Statement	Formulated Meaning
26. Any aspect in the care of the patient that has called for technical skill, patience, tact, or understanding as well as for clinical knowledge should be developed.	26. Case studies encourage skill development and application.
27. Through describing the details of nursing care in logical order, it is shown that he student understands the nursing needs and plan for the patient.	27. Thoughtful description synthesizes understanding.
28. Constant reference reading in connection with clinical experience will help the student develop an intelligent interest in the patient.	28. Become familiar with the professional literature in the field.
29. To seek information about patients in an organized, systematic way	29. Seek information about patients in an organized, systematic way.
30. To record such information so that it has practical value to the student nurse as well as to others.	30. Record information that has practical value.
31. Through the study she learns to select and organize all pertinent information.	31. The student learns to select and organize all pertinent information.
32. Through the study she learns to select and organize all pertinent information and to use it in developing her own insight and understanding of the nursing care.	32. Develop own insight and understanding of the nursing care by using pertinent information collected.
33. The student should have the opportunity to apply and test the knowledge gained in a nursing situation.	33. Care plan will provide students the opportunity to apply and test knowledge gained in a nursing situation.
34. It seems self-evident that the nurse cannot make a really intelligent and individualized plan for the care of the patient without making some sort of a case study.	34. To create an intelligent, individualized plan for the care of a patient.
35. It goes without saying that some means must be devised to coordinate their efforts and direct them toward the accomplishment of a common aim.	35. To use as a means of communication among team members, colleagues.
36. Each person's case should be looked upon as a problem of how may the individual be helped to regain or maintain health or if no cure is found, how they may be comfortable.	36. Approach each person's case as a problem: How may this patient be helped to regain or maintain health? How may he or she be made as comfortable as possible for the rest of his or her life?

(table continued)

Significant Statement	Formulated Meaning
37. Writing the care plan expresses what the nurse hopes to accomplish with nursing care over the period of time the patient is expected to be in the hospital, the plan of home care that she makes in cooperation with the patient, the family, and the social worker before the patient leaves the hospital would be stated or implied in plans made subsequently	37. Clarify what is to be accomplished with nursing care over the period of time the patient is expected to be in the hospital, and the plan of home care that she makes in cooperation with the patient, the family, and the social worker before the patient leaves the hospital.
38. When the needs of a patient are not analyzed, the inevitable result is that he is fitted into a routine pattern of care.	38. A thorough assessment and understanding of patient will individualize care.
39. Factors that influence nursing care transpires as-diagnosis, social history and health record, HPI, present signs and symptoms, laboratory findings, treatment prescribed by physician.	39. Specific data should be listed under factors that influence nursing care.
40. What those things suggest in terms of nursing care-general nature of nursing care suggested by the diagnosis, care must be modified by patient's past experience, social and economic status, HPI may influence nursing care and preventive measures to be taken later, nursing care designed largely to relieve symptoms of illness, lab findings like the diagnosis important leads in nursing care, nursing care built around prescribed medical treatment.	40. From the specific data, interpretation and analysis of how they contribute to nursing care should be listed.
41. Measuring the success of the plan of nursing care and its execution is essential.	41. Evaluation of care plan success and execution is an important part of the learning process.
42. Nursing care plans provide a guide to patient-centered care.	42. Guide patient-centered care.
43. Nursing care plans provide a means of communication.	43. Communicate among the healthcare team.
44. Nursing care plans provide a guide for supervising the team.	44. Provide a guide for supervising.
45. Nursing care plans provide a basis for evaluating patient care.	45. Serve as a basis to evaluate patient care quality.
46. Eliminates routine care.	46. Eliminate "routine care" by focusing on the individual person.
47. Is a central source of information about the patient and his needs to be communicated to all nursing personnel.	47. Care plan will be used to communicate information about the patient and his needs to all nursing personnel.

(table continued)

Significant Statement	Formulated Meaning
48. Tool for providing continuity of patient care on a twenty four hour basis.	48. Provide a written format for continuity of patient care.
49. Provides the background information for meaningful entries in nursing notes.	49. Allow for meaningful entries in nursing notes due to pertinent information collected.
50. Tool for discharge planning and provides continuity of care from one facility to another or to the home.	50. Tool for writing discharge teaching.
51. Methods of gathering information are interview, the nursing history, planned observation and communication, team conferences.	51. Interviewing, observation and communication are developed through data collection.
52. Rule out problems that do not seem to require attention.	52. Data collection includes differentiating irrelevant information.
53. Identify specific nursing actions to be tried.	53. Identify nursing actions.
54. Once gathered, the data must be sorted out and analyzed.	54. Appraise and analyze data.
55. This process involves exploring and thinking through what this information means in terms of the problems or needs that nursing can do something about.	55. Care planning calls for thoughtful analysis of data.
56. Select those problems that are most critical to the patient.	56. Select problems according to relevance.
57. Be sure to determine the patient's needs, not your own.	57. Develop self-awareness.
58. It is necessary for the professional nurse to make her own observations and evaluation of nursing action relative to each patient.	58. Reflection and evaluation of nursing action is necessary.
59. Student Nursing care plans are useful for learning the problem-solving technique, the nursing process, skills of written communication, and organizational skills needed for nursing care.	59. A tool for learning the problem-solving technique of nursing and the nursing process
60. The nursing care plan enhances the continuity of nursing care by listing specific nursing interventions needed to achieve the goals of care.	60. Help develop skills of written communication.
61. Written Nursing care plans organize information exchanged by nurses in change-of-shift reports.	61. Aid student in understanding the organization skills needed for nursing care.
62. Most important, your use of the nursing care plan helps you apply knowledge gained from the nursing and medical literature and the classroom to a practice situation.	62. Apply knowledge gained from the nursing and medical literature and the classroom to a practice situation.

(table continued)

Significant Statement	Formulated Meaning
63. A nursing care plan is a written guideline for coordinating nursing care, promoting continuity of care, and listing outcome criteria to be used in evaluation.	63. Listing what needs to be done improves continuity of care.
64. The student care plan is more elaborate than a care plan used in a hospital or community agency because its purpose is to teach the process of planning care.	64. Nursing care plans as learning tools for the process of planning care.
65. The nursing diagnosis with the highest priority is the beginning point for the nursing care plan, followed by plans for other nursing diagnoses in order of assigned priority.	65. Nursing care plans as learning tools for prioritizing patient needs.
66. Enter a scientific rationale for a specific intervention.	66. Interventions should be explained by rationale.
67. Each rationale needs to include a reference, whenever possible, to document the source from the scientific literature; this reinforces the importance of evidence-based practice.	67. Through documenting scientific rationale, the importance of evidence-based practice is identified.
68. Write out and elaborate the nursing process.	68. Aid the student in learning the nursing process
69. It is a problem-solving approach designed to enhance the profession of nursing and to promote quality client care.	69. A problem-solving approach designed to enhance the profession of nursing.
70. This textbook utilizes both research and the nursing process and assists the nurse in increasing use of evidence-based interventions in the clinical setting.	70. Promote quality client care through the integration of evidence-based nursing
71. Select an appropriate nursing diagnosis label using critical thinking skills.	71. The student will demonstrate critical thinking skills to make appropriate nursing diagnoses.
72. Cluster the symptoms	72. Recognize common symptoms.
73. Analyze the symptoms	73. Think analytically about symptoms.
74. The process of identifying significant symptoms, clustering or grouping them into logical patterns, and then choosing an appropriate nursing diagnosis involves diagnostic reasoning skills that must be learned in the process of becoming a nurse, this textbook serves as a tool to help the learner in this process.	74. Textbook as a tool to help learner develop diagnostic reasoning skills.
75. Identify symptoms or defining characteristics	75. Symptoms are identified and listed.

Table 3 illustrates the phenomenological operations of data analysis according to Colaizzi's (1978) guidelines. Through the qualitative process of intuiting, using contrast and comparison, imaginative variation, negation, and analogy, themes emerged from the significant statements with their formulated meanings. This process involved grouping

Table 3

Summary of Data Analysis Procedures using Colaizzi's Guidelines

Raw Data:	5 Historical Textbook (607 Statements) 2 Current Textbook (152 Statements)
Level 1 Coding	Significant Statements (316) Formulated Meanings (316)
Level 2 Coding	Themes (9)
Level 3 Coding	Theme Clusters (4)
Findings:	Exhaustive Description Fundamental Structure

the individual statements and categorizing them with appropriate theme labels, such as perspectives on teaching tools, aims of writing a care plan, how to write a care plan, and

so forth. Since the themes did not provide concise enough groupings for the expected outcomes for students, theme clusters were developed. Apparent from the original significant statements, the individual themes were contrasted and compared, and then hypothetically analogized and negated. Then based on their relationships, themes were aggregated to form theme clusters. For example, the theme of the steps in collecting data and the interviewing of a patient were combined as one theme cluster related to the process of creating a care plan. In this way, the researcher accepted ambiguities and contradictions of textbooks as being existentially real (Colaizzi, 1978). A total of four theme clusters were derived through this inductive reasoning process. At this point, themes and theme clusters were reviewed by a colleague of the researcher's to provide inter-rater consensus of appropriate themes and theme clusters.

A description of the nursing care plan as a learning tool was formulated at this point. The exhaustive description was reduced to statements categorized under each theme cluster: (a) definition, (b) components, (c) process, and (d) learning objectives. The individual formulated meanings listed under the theme cluster of learning objectives were then ready for analysis. When attempting to evaluate objectives as one large theme group, the researcher found they were awkward to manipulate. Thereby, for clarity of data analysis and for remaining true to the historical context, objectives were evaluated in association with their respective textbook.

Application of Bloom's Revised Taxonomy

A taxonomy is purposeful in classifying, categorizing, clarifying, and defining how students learn. Taxonomies appeal to educators because they provide a framework for analyzing educational objectives. Therefore, the formulated meanings of significant statements that ultimately became the theme cluster "learning objectives" were analyzed using Bloom's revised taxonomy (Anderson et al., 2001). Learning objectives became the focus of analysis because

objectives help us align our attention and our efforts. They indicate what we want to accomplish. In education, objectives not only indicate what we want students to learn, but they are also "explicit formulations of the ways in which students are expected to be changed by the educative process" (Bloom et al., 1956, p. 26). Through an analysis of objectives, one knows what is to be learned, how it will be executed and, perhaps, can appreciate the underlying reason why (Keating, 2006).

Statements of learning goals and objectives serve as a means of communication for educators to specify the intent of the outcomes and how learners can achieve them. Keating (2006) suggests "external assessment agents such as accreditors seek evidence of program integrity from the flow of philosophical ideations, arrangement of educational objectives and course work, and appropriate internal assessments to demonstrate progression toward learning outcomes" (p. 63). Therefore, the primary purpose for utilizing a taxonomy in learning objective analysis is to facilitate communication among faculty, colleagues and students and externally for reviewers and internally for the individual faculty member (Bloom, 1964).

Bloom's revised taxonomy of the cognitive domain designates six categories of cognitive dimensions: (a) creating, (b), evaluating, (c) analyzing, (d) applying, (e) understanding, and (f) remembering (Anderson et al., 2001). The focus of this research project is not concerned with the knowledge dimensions of Bloom's revised taxonomy (Anderson et al., 2001) which are: (a) factual knowledge, (b) conceptual knowledge, (c) procedural knowledge, and (d) metacognitive knowledge. The researcher focused on cognitive dimensions because thinking, particularly critical thinking, is the emphasis for most nursing school curriculums. Anderson et al., (2001) suggested, "like the original framework, our revision will be most beneficial to those who adapt

it to their purposes" (p. 259). Therefore, the revised Bloom's taxonomy which was utilized is shown in Figure 5.

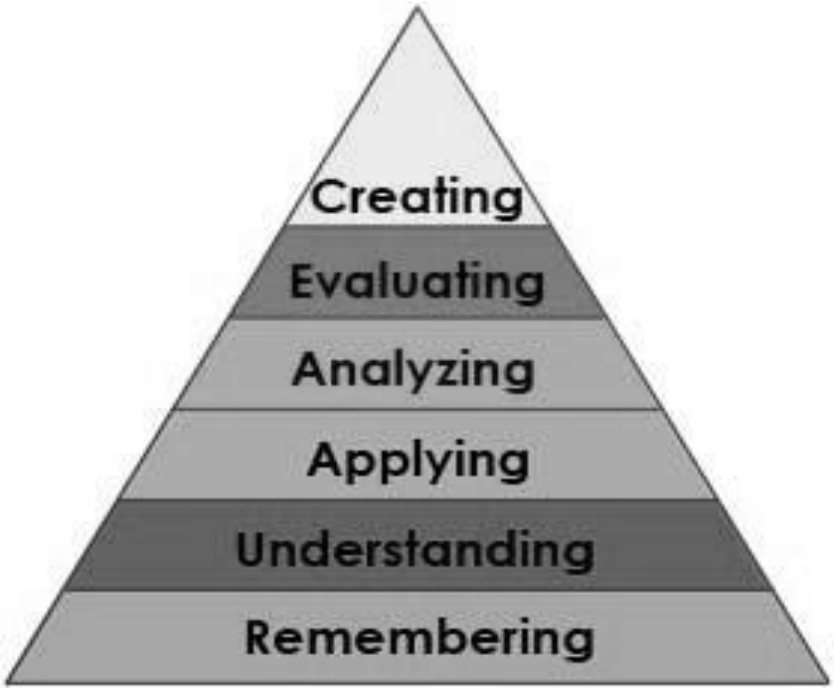


Figure 5. Bloom's Revised Taxonomy. Adapted from "A Taxonomy for Learning, Teaching, and Assessing" by L. Anderson et al. Copyright 2001 by Longman.

Cognitive Processes

The categories of the cognitive process provide a comprehensive set of classifications for those student cognitive processes that are included in objectives. As mentioned, using a taxonomy to analyze learning objectives is valuable when assessing retention and transfer of knowledge. Retention and transfer are two processes most researched and studied in conjunction with meaningful learning (Donovan et al., 1999; Kolb, 1984; Mayer & Wittrock, 1996; Novak & Gowin, 1984). When the primary goal of instruction is to promote retention, the focus is on objectives that emphasize remembering. As the simplest process category, *remembering* is

considered the retrieval of significant knowledge from long-term memory in the areas of factual, conceptual, procedural and metacognitive knowledge. Remembering knowledge is essential for meaningful learning and problem solving as that knowledge is later used in more complex tasks (Anderson et al., 2001). For example, nursing students must have knowledge of the correct class of a particular medication if the student is to master giving the medication when appropriate. Verbs used in creating objectives for this cognitive process are: define, duplicate, list, memorize, recall, repeat, reproduce, and state (Overbaugh, 2008).

When the goals of instruction are to promote transfer, the focus shifts to the five cognitive processes of understanding through creating. *Understanding* occurs when the students are capable of constructing meaning from instructional messages, including oral, written and graphic transmissions from whatever means are employed to convey the information. Student understanding occurs when links between the most recent information acquired and previously learned information are formed in schemas and cognitive frameworks (Anderson et al., 2001). Examples of potential instructional messages include skill demonstration in the ward setting of a Foley catheter insertion when a patient is unable to void independently. Students accomplish understanding when they build connections between the "new" knowledge and prior knowledge. Verbs used in creating objectives for this cognitive process are: classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, and paraphrase (Overbaugh, 2008).

When *applying*, the student uses procedures to perform executions or solve problems. Applying is selected for situations where there is some degree of understanding between the problem and the potential procedure (Anderson et al., 2001). Verbs used in creating objectives for this cognitive process are: choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, and write (Overbaugh, 2008). Next and higher on the

hierarchy of cognitive processes is *analyzing* which occurs when students can dissect material into its constituents and examine each part to determine how it relates to one another or to an overall structure (Anderson et al., 2001). Improving students' skills in analyzing educational communications is a goal in many fields of study. Teachers of science frequently give "learning to analyze" as one of their important objectives as they wish for students to connect conclusions to supporting statements or to distinguish relevant from extraneous material. Verbs used in creating objectives for this cognitive process are: appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, and test (Overbaugh, 2008).

The last processes and also the two highest order processes are evaluating and creating. *Evaluating* is making judgments based on criteria. Standards of performance are the defining element of the process of evaluating. Criteria used in evaluating are most commonly quality, effectiveness, efficiency, and consistency. The standards for evaluation may be either quantitative or qualitative and when evaluating occurs the standards are applied to the criteria (Anderson et al., 2001). Verbs used in creating objectives for this cognitive process are: appraise, argue, defend, judge, select, support, value and evaluate (Overbaugh, 2008). Lastly, *creating* involves assembling parts into a coherent or functioning whole or restructuring the parts into a new scheme or pattern (Anderson et al., 2001). Most commonly, the processes involved in creating are generally coordinated with the student's previous learning experiences. Creating calls the student to draw upon elements from many sources, put them together into a novel structure or pattern relative to his or her own prior knowledge resulting in a new product (Anderson et al., 2001). Verbs used in creating objectives for this cognitive process are: assemble, construct, create, design, develop, formulate and write (Overbaugh, 2008).

Learning Objective Analysis

Learning objectives analyzed were the product of data analysis using Colaizzi's method (1978), as described previously. The researcher used formulated meanings of significant statements which formed the theme cluster "learning objectives." Additionally, Anderson et al. (2001), who was responsible for revising Bloom's taxonomy, was used as a further guide for learning objective analysis.

A statement of an objective contains a verb and a noun where the verb generally describes the intended cognitive process (Anderson et al., 2001). To follow Anderson et al.'s (2001) analytic journey of learning objectives using Bloom's revised taxonomy, the following steps were taken. First, the verb and noun were located in the learning objective statement. The verb was examined in the context of the six categories of the cognitive process dimension: remembering, understanding, applying, analyzing, evaluating, and creating. The verb was then placed into the appropriate category which was facilitated by focusing initially on the specific cognitive processes. Each cognitive process was described individually in direct reference to the learning objective. An extended list of verbs associated with cognitive processes was adapted by comparing verbs in the formulated meanings under the theme cluster of "learning objectives" to Overbaugh's (2008) suggested verbs for evaluating objectives. When a verb was not available, the context of the objective was used to help the researcher come to a conclusion about the objective's classification. When a verb was available but not found within Overbaugh's (2008) suggested list of verbs, a Roget's (2010) thesaurus was utilized to access similar verbs which were found within Overbaugh's (2008) literature.

Once the researcher categorized each objective, she looked at the objectives' classifications as a whole for each textbook. She described the cognitive processes individually for each learning

objective and she noted how the learning objectives were related to one another. Coordinating learning objectives was reasonable as Anderson et al., (2001) suggest that it facilitates meaningful school learning. Most authentic academic tasks require the coordinated use of several cognitive processes. From this individual to holistic view, judgments based on Bloom's revised taxonomy (Anderson et al., 2001) were made regarding the value of the care plan as a teaching tool throughout nursing education history.

Objective Classification Challenges

Anderson et al. (2001) suggest classifying objectives can be difficult for two reasons. First, in analyzing an objective, there may be more word components than simply verbs and nouns. For example, from Chapter four, one reads, "the specific data, interpretation, and analysis of how they contribute to nursing care should be listed", the phrase "from the specific data" simply clarifies the meaning of "they." What was seen with this objective was a modifying phrase. The additional verbiage had to be ignored in classifying the objective as it caused confusion when attempting to identify relevant parts for categorizing.

Secondly, the verb may be ambiguous in terms of the intended cognitive process. For example, learning objective EO5 from Chapter four was, "Nursing care plans are tools for writing discharge teaching." Here, the word "writing" became the objective which can mean many things. Students can write what they have recalled, interpreted, explained or generated. Therefore, again using Anderson et al. (2001) as a resource, the researcher had to infer which process the objective intended in order to classify the statement. The researcher experienced what Anderson et al. (2001) discussed at length which was that the people who are classifying objectives must make inferences. Ambiguous verbiage and additional verbiage were the two main challenges in analyzing learning objectives with Bloom's revised taxonomy. With

Anderson et al. (2001) as a source, the researcher was able first to be aware these challenges could arise and secondly, understand how to systematically approach the challenges.

Methods Summary

A combination of qualitative methods, historical methods, and phenomenological methods, were utilized in this study. University of Edinburgh professor W. H. McDowell's (2002) approach to historical research and historical research methods was the main guide for historical inquiry into past nursing student characteristics, nursing instruction, and the instruction tool of nursing care plans. Lewenson and Hermann (2008) was also used as a supplement to historical methods and a way to validate McDowell's work with a second source. Overarching the methods was a theoretical framework. An intellectual history as a theoretical framework allowed the nursing care plan to be viewed as a historical and current instruction tool which was originally introduced to elicit higher order thought processes in nursing students and practicing nurses.

From the first phase, an historical narrative presented in the literature review of this dissertation evolved. The narrative summarized historical findings about nursing instruction tools and nursing student characteristics from 1890 to present. The researcher determined that nursing care plans were the most consistent and frequently used instruction tools throughout nursing history. Therefore, after consultation with keynote librarians and archivists and a literature review on nursing care plans from 1890 to present, nursing care plans as instructional tools became the focus of Phase two. The nursing care plan literature review and availability of sources defined time periods to collect historical textbooks.

Historical textbooks were historically analyzed to add more depth to the initial historical narrative. Through this analysis, a rich context of the educational milieu during each time period

was added to the previous narrative. After historical analysis, care plans as a proxy for instructional goals described in historical textbooks were analyzed using Colaizzi's (1978) guidelines for phenomenological analysis. The researcher assured inter-rater consensus with a colleague re-reading themes and theme clusters. As a result, an exhaustive description of the nursing care plan as a learning tool evolved. Lastly, by using the individual formulated meanings of significant statements categorized as the theme cluster "learning objectives" derived from Colaizzi's (1978) method, Bloom's revised taxonomy (Anderson et al., 2001) was applied to each learning objective. This allowed the researcher to determine what cognitive processes were intended to be elicited through the nursing care plan in education.

Although no single historical method exists, Lynaugh and Reverby (1987) have offered essential guideposts and rules of evidence to ensure the credibility and usefulness of the historian's findings which were discussed above. Issues of credibility, usefulness, genuineness, and authenticity were addressed and strategies employed to reduce threats of genuineness and authenticity of documents were discussed.

This chapter described the theoretical framework for historical research, the purpose and process of using historical research and Colaizzi's (1978) guidelines for data analysis, and the application of Bloom's revised taxonomy (Anderson et al., 2001). Specific procedures for data collection, further source selection, data management and data analysis were also described.

RESULTS

Historical Analysis

Through historical analysis one can develop new material and new ideas based on supporting evidence rather than just rehash ideas (Speziale & Carpenter, 2007). Historical research is concerned with the search for true meanings and attempts to bridge identified gaps, for this study, gaps are between what accrediting bodies demand and in what ways nursing educators teach nursing. Accrediting bodies insist that schools of nursing should produce critical thinkers and should be using instruction tools that foster critical thinking. Their challenge is based on evidence which suggests critical thinkers are ultimately lifelong learners who can adapt to changing healthcare demands. An underlying assumption exists that nursing schools are not teaching in ways that promote critical thinking, or that they are not doing this well. Based on historical evidence, nursing care plans have been the most consistently used instruction tool in nursing education. Nursing educators have used this tool consistently for over 80 years. An extensive literature review of current nursing education teaching practices verified its continued use today. This researcher, therefore, put under scrutiny the age-old instruction tool, the nursing care plan.

Through historical analysis of seven textbooks allocated from predetermined time periods, a rich picture of the nursing care plan instruction was constructed. One aspect of this chapter describes the textbooks and pertinent data. The method for historical data analysis was described in Chapter three and the outcome of analysis was presented as narrative descriptions of the nursing care plan according to the selected textbooks enriched by previously analyzed historical data from the literature review in the context each time period.

Historical Narrative

1920s to 1940s

Historically, the concept of the nursing care plan originated in nursing education as a reflective exercise rooted in the experience of nursing students at Yale University in the late 1920s (Jensen, 1929a). These descriptions were called "nursing care studies" or "nursing case studies" and exemplified an early effort in the development of a formal model of nursing practice. Impressed by the observation of interdisciplinary team plans in rehabilitation settings, Virginia Henderson, a noted leader in nursing education, recommended the development of written nursing care plans to promote individualized care for all patients. She proposed use of the instruction tool to the National League for Nursing (NLN), and the idea was included in the 1937 NLN curriculum guide, and also in the 1939 edition of Harmer and Henderson's, *The Principles and Practices of Nursing.*

Using textbooks as references for learning was more than commonplace for nursing students during the 1920s through 1940s. Students relied upon the textbooks to reiterate what was taught in lecture and to guide them in their ward experience. *The Principles and Practice of Nursing* was passed down from student to student and was referred to as the "survival tool for nursing school" (University of MD SON, 1999, IIB22), but it was not until the 4th edition of the book after Jensen's (1929a) published work and the recommendation by the NLN (1937) that the care plan was integrated into the textbook (Harmer & Henderson, 1939).

Following the start of World War II in 1939, the nursing delivery systems were reorganized from individual case assignments to team nursing, utilizing a combination of professional and nonprofessional personnel to deliver nursing care (Ciuca, 1972). This change resulted in new role demands for the professional nurse since communication among personnel providing

nursing care became a central function. With the increasing demands on nursing, the schools began true reflection on their instruction tools. Jensen (1929a) believed that no one method of teaching either in the classroom or in the ward could solve all the problems of nursing education. The case study was just one more tool that could be used to develop the educational content of the ward. Further, Harmer and Henderson (1939) added that, a method of teaching is a means of furnishing opportunity for the learner to use knowledges, skills and attitudes in such a way that the desirable ones become integral parts of the learner's personality" (p. 23). The nursing care plan development used the same pattern of inquiry and thinking as other science-based practitioners. Students had to apply the same rigor while using prior knowledge. According to Jensen (1929a), building upon prior knowledge adds meaning to the ward experience. Through the process of developing written nursing care plans, students could also effectively understand their role as a nurse to a patient and the inherent needs of each patient became understood. The textbook also elaborated on the idea that a student's study of a single patient created a deeper understanding of care than if the student had to study multiple patients.

Encouraging the educator's role in student learning, the NLN (1937) valued nursing care plans. They believed that the implementation of the tool rather than the tool itself determined student outcomes (NLN, 1937). Through these words, the NLN placed responsibility of learning on all persons and reiterated that the nursing care plan did not autonomously teach advanced cognitive processes but certainly had the capability in conjunction with the educator and student to be one of the most valuable learning tools in nursing education.

Historically, students were expected to graduate well-prepared and educated rather than merely trained. The change from apprenticeship to education began aligning itself with the impetus of placing nursing skills on a more scientific basis rather than on the initial tasks which

were designed and influenced by Florence Nightingale. According to Nightingale (1860), who had been referred to as the founder of nursing, nursing care consisted of the following: providing clean air to the patient, maintaining internal body heat, maintaining and ridding noise at hours of sleep, maintaining a variety of setting, aiding in the intake of food and knowing how to prepare it, change the bed and bedding, assuring proper hygiene, and observing the ill patient. These nursing care responsibilities required very little cognitive processing or complex concepts which was in stark contrast to what the textbooks discussed.

Through the textbook, Jensen (1929a) recommended the nursing care plan would call for the student to give the more important underlying scientific data that served as a basis for selecting or designing each nursing intervention. With this heightened knowledge came confidence as the disposition of the nursing student was forced to change during the war years from one of submissive and obedient to a disposition of autonomous and self-directed. This transition occurred because many of the United States' men were enlisted overseas to fight in war, and women, for the first in history, were left at home to be the primary breadwinners, head of households, students enrolled in school, and professionals (Robinson & Perry, 2001). Nursing had a tremendous calling as nurses were in high demand to care for injured soldiers, and in answering this call, women found work that was intellectually challenging, valued, and widely recognized (University of MD SON, 1999, IVD9).

Because of its development in this time period, the nursing care plan was introduced to schools of nursing, and established roots quickly. Its initial success led to the education of students on all that is entailed in nursing and, moreover, to the use of the scientific reasoning behind nursing interventions. For all practical purposes, the care plan signified intelligence and autonomy if mastered by the student. Jensen (1929a) viewed the nursing care plan as also

making the process of nursing humane, "though the patient selected for study should present nursing problems, many of these problems have to do with the understanding of people" (p. 9). Autonomy became visible through writing and developing nursing care plans as Harmer and Henderson (1939) state that, "the nurse may measure her success in preventative nursing by what she thinks she has contributed toward keeping the individual well" (p. 88). Therefore, at the close of this time period, the nursing care plan as an instructional tool not only reflected the changing demands of the competency and cognitive abilities of nurses but also helped define nursing as a more formal profession because it allowed for the study and documentation of patient care.

1950s to 1970s

The California Department of Public Health was a leader in this time period. It developed innovative strategies for healthcare learning which led to state and nationwide recognition of competent nursing care and high levels of patient safety. While they did not develop the nursing care plan, the state of California prepared a document based on the works of several nursing educators regarding the value of the nursing care plan as a teaching tool and its use in the hospital (California Department of Public Health, 1970). As a tool, Little and Carnevali (1969) proclaimed the importance of the nursing care plan as it fused interventions and the rationales for nursing interventions. It also reported and synthesized the major thinking about nursing care in a concise written format. Little and Carnevali (1969), the California Department of Public Health's (1970) report, as well as Lambertsen (1964), believed that through developing nursing care plans, patient needs were identified. These needs formed the basis of nursing interventions. Care planning also lent structure to the heart of daily patient care which was becoming more intertwined with new technology.

Hospitals were on the forefront of implementing these new technological devices to care for patients. To provide an avenue for students to become mildly familiar with these devices before entering the clinical setting, schools and hospitals needed to provide interactive, simulated sessions. Affording the same devices as hospitals in the laboratory setting was a challenge for the school. It was a challenge because of cost and availability, however, nursing increasingly relied upon exposure to new technologies in a simulated setting as a way to facilitate learning (University of MD SON, 1999, IIC 40). Audio-visual equipment, nursing skills labs and computers enabled nursing educators to keep up with rapid changes in medicine and health care, educate larger numbers of students, and provide practical experience when increasing patient acuity levels which made hospital teaching risky (University of MD SON, 1999, IIC 40).

Clinical also served to reflect the advancements in technology with the incorporation of more critical care rotations. From Neonatal Intensive Care to Cardiac Intensive Care, students were further exposed to the world of technological advances with such devices as electric intravenous infusion pumps, Stryker-frame beds, and respiratory ventilators. On the other hand, super 8mm projectors were the classroom's component of the school's "Instructional Media Center" where students could go to see images of material being taught (University of MD SON, 1999, IIC 41). The complexity of nursing care continued to present challenges for meaningful instruction that facilitated the synthesis and understanding of complex concepts. Because of the increasing acuity of patients, still more individuals became involved in the patient's care which presented challenges for students in understanding the broad picture of holistic patient care.

Kron (1966) provided a well documented textbook on the use of the nursing care plan as a way to coordinate care within all disciplines. Kron (1966) not only believed that the nursing care plan provided essential information about the patient, their family composition, occupation,

and socioeconomic status but also encouraged the student to apply information which would then allow them to formulate patient goals. These goals would be what the team hoped to accomplish in daily care for each particular person. Interventions would encompass physical, mental, and psychosocial components which pressed the nursing student to analyze data and observe the patient even more keenly. For example, a nursing intervention of "keep the patient comfortable" was deemed appropriate if the patient were suffering from intractable pain and if the main aim of medical therapy was the alleviation of that pain. Kron (1966) proposed interventions included not only medical components but also general components such as factors of the social environment, diet, fluid requirements, etc. and the patient's response to illness and interventions. Viewing and treating the patient as an entire being was not a new thought but had to be reiterated as nursing units became fast-paced, acute environments.

Now established as an instruction tool for approximately 40 years, the nursing care plan changed with the demands of increasing technology and theoretical shifts in nursing and medical education. The nursing care plan was the core of care for the patient and the blueprint for safe and continuous care which should become the standard for the profession of nursing. Essentially, social, political and economic factors have influenced who is drawn to the profession as well as how instruction tools are inadvertently, insidiously changed to reflect the current environment.

21st Century

In the 21st century, a boom of publications was released that directly spoke to instructional methods of nursing schools. A few of the publications were: the NLNAC's (1993) *A Vision for Nursing Education*, the AACN's (2005) *Nursing Education's Agenda for the 21st Century*, and Pew Health Professionals Commission (1998) report *Health Profession Education for the*

Future: Schools in Service to the Nation. A common theme found in these reports was that curricula and learning activities should develop students' critical thinking skills rather than encourage rote memorization (O'Neil, 1993). The AACN, NLNAC and Pew Health Professionals Commission are keynote organizations with impacting decision-making authority; through their publications they emphasized the magnitude of instruction tools on the development of thinking processes.

During the 21st century, the nursing care plan, as a continued mainstay instruction tool, has evolved into a source of checks and balances. These checks and balances served the student at the bedside, the educator as a student evaluator, and as an external check and balance for accrediting bodies. As discussed in Potter and Perry (2009), student care plans are useful for learning the problem-solving technique, the nursing process, skills of written communication, and organizational skills needed for nursing care. However, the textbook refers to a most important fact which is that the student should apply knowledge gained from the nursing and medical literature and lecture to clinical. Through evaluating care plans, educators can determine if students are living up to demands of accrediting bodies and school administration standards which indicate the students have the capability to think critically. For use by accrediting bodies, implementation of nursing care plans as instruction tools can provide some assurance that educators encourage critical thinking and that they utilize teaching tools which aim for meaningful instruction.

Accredited schools of nursing have adapted a vision reflective of a larger society, a vision that enables students to graduate with a comfortable grasp of technological advances in patient care and to contribute to the larger body of knowledge in nursing through research. A vision for one nursing school was, "today's nurses must acquire scientific knowledge and clinical proficiency

and also be able to think critically and integrate research into practice" (University of Maryland, 1997). Hence, nursing care plans have integrated scientific rationale, as aforementioned in the first nursing care study work, as a pronounced thread of today's care planning process. Evidence-based nursing emphasizes asking searchable, answerable, clinical questions (Ackley & Ladwig, 2008). Through their textbook, Ackley and Ladwig (2008) emphasized creating sound, research-based rationales for all of the nursing care indicated which validates interventions and makes them appropriate and workable.

In the 21st century, the student evaluates the appropriateness of patient interventions and the educator evaluates the student's ability to apply cognitive processes in planning appropriate care for the patient. Lastly, evaluation is at the heart of the matter when accrediting bodies evaluate if the school is utilizing tools that access higher thinking processes

Summary

Through historical analysis of these keynote textbooks within context of their time period, findings provided concrete examples of the evolution of the care plan traced through time periods. Care plan evolution was overlaid with historical narrative regarding nursing student characteristics and details of the healthcare and education context of each time period. This overlay of historical narrative was adapted from phase one of the research study and is properly presented in the literature review of this dissertation with particular findings used in the results of the second phase of historical analysis. Through the history, it can indeed be presumed the nursing care plan has evolved with changing times. From a comprehensive view of the patient with some scientific rationale to a complex, collaborative, research-based plan, the nursing care plan appears to have been used continuously as a tool that encourages higher order cognitive

processes. To further navigate the findings of the textbook regarding nursing care plans, Colaizzi's (1978) guidelines for qualitative data analysis was next applied to the textbook.

Colaizzi's Method

To add greater depth to the historical findings of textbook instruction for nursing care plans, phenomenological investigation, Colaizzi's (1978) guidelines specifically was used to develop theme clusters of nursing care plan instruction. Phenomenological investigation aims to illuminate the essence of a particular reality through describing the context and complexity of that phenomenon in a genuine way. Phenomenology is concerned with appearances and with the different aspects with which an experience is presented (Spiegelberg, 1975). Through this additional analysis a more vivid picture of nursing care plan as a learning tool evolved. This chapter also described the theme clusters and corresponding formulated meanings which emerged through data analysis using Colaizzi's (1978) guidelines for analysis. Chapter three described in detail this method and also presented an exhaustive description of the instruction and culmination of a statement of the fundamental structure or essential aspects of that experience.

The initial review of seven textbooks included 234 pages of textbook directly or indirectly involving the nursing care plan. Before elimination of repetitious statements within and among textbook, the researcher took 607 significant statements from historical textbooks and took 152 significant statements from current textbooks. She condensed a total of 759 significant statements to 316 significant statements and formulated meanings. Then she aggregated significant statements and formulated meanings into nine themes. Through further reduction, these nine themes became four theme clusters. "Learning objectives" was one theme cluster associated with 75 of the 316 significant statements and formulated meanings. She analyzed

these 75 formulated meanings with Bloom's revised taxonomy (as shown in Table 2, Chapter three) and discussed it in this chapter. Table 4 illustrates the themes derived from qualitative analysis of the data.

Table 4

Themes Emerging from Significant Statements and Formulated Meanings of Nursing Care Plan Textbook

Theme #1: The care plan is viewed as the study of a patient.
Theme #2: The plan provides a tool for modification and therefore evaluation of patient behaviors.
Theme #3: Each patient is treated as an individual and with their care planned accordingly.
Theme #4: The plan is used as a resource to communicate among all teams.
Theme #5: The plan identifies current and past medical history.
Theme #6: The patient's personal and social history affects the physical health and care planning.
Theme #7: Data collection occurs through the clinical chart.
Theme #8: The patient interview is an important skill in obtaining patient information.
Theme #9: Observing the patient leads to care plan modifications.

Themes were relatively universal among the textbooks. Each textbook had a particular theme which was covered more heavily. For example, Kron (1966) discussed nursing care plans as communication tools. Jensen (1929a) delved heavily into nursing case studies as an intensive study of a single patient. Again, each textbook had statements which aggregated into each theme, but each textbook had certain themes with more associated themes.

Theme clusters represent common ideas which the majority of textbooks described. The theme clusters reflect the relationship that exists between discrete themes. For example, collecting data through the clinical chart was related to interviewing a patient and were clustered together as the process of creating a care plan. Individual patient care and communication among team members formed a second cluster of themes. Themes such as patient's medical history and social history are related and clustered into a third category. The theme clusters are organized sequentially, reflecting the progressive movement among a continuum as described through textbook. Table 5 illustrates the clustering of themes into four categories. In quotation marks, an abbreviated term is located which simplifies the themes cluster's label.

Table 5

Theme Clusters Emerging from Nursing Care Plan Textbook.

Cluster #1: Defining the care plan, "definitions."
Cluster #2: Objectives of the care plan as a learning tool, "learning objectives."
Cluster #3: Components of the care plan, "components."
Cluster #4: Process of creating the care plan, "process."

The themes which emerged from the significant statements and formulated meanings were presented in a narrative format. As each theme was presented, references from the textbook are offered to permit the reader an experience of the textbook about developing and writing nursing care plans. The textbooks were chronologically coded by letters: A, B, C, D, E, F, and G. They were as follows: Jensen (1929a) *Student's Handbook on Nursing Case Studies* is indicated by "A." National League of Nursing (1937) *A Curriculum Guide for Schools of Nursing* is indicated by "B." Harmer and Henderson (1939) *The Principles and Practice of Nursing,* is

indicated by "C." Kron (1966) *Nursing Team Leadership* is indicated by "D," California Department of Public Health (1970) *Guidelines for Nursing Care Plans,* is indicated by "E." Ackley and Ladwig (2008) *Nursing Diagnosis Handbook: an Evidence-Based Guide to Planning Care* is indicated by "F" and Potter and Perry (2009) *Fundamentals of Nursing* is indicated by "G."

Themes

Theme 1: The Care Plan is Viewed as the Study of a Patient.

Essentially, each textbook began by defining the nursing care plan from the author's perspective. Each definition stemmed from the author's perspective because textbooks of the same time period defined the care plan differently. These textbooks provided flimsy definitions of nursing care plans. For example, textbook C says that, "the plan of nursing care that includes provision for personal cleanliness, feeding, elimination, rest, sleep, exercise, and diversion, is left to the nurse" (p. 61). In a different textbook, "student nurses have been more interested in observing their patients and in comparing, analyzing and interpreting the facts about them when using the case study method" (Textbook A, p. 2). Also, the textbooks would reference one another, yet, define the nursing care plan differently than the referenced textbook.

In further defining nursing care plans, the textbooks would directly list components rather than include additional defining verbiage, as seen in the following statement, "the study of a patient which includes social as well as medical and nursing data is called a nursing case study" (Textbook A, p. 2). Authors attempted to simplify nursing care plan components as the following textbooks revealed: "All nursing aspects are considered for a patient thus the case study is assembled under: social history, medical history and nursing problems and their solutions" (Textbook A, p. 11); from textbook B, "case studies are written studies of the whole

patient" (p. 612); and finally from textbook E, "it is a written personalized plan for the individual patient which indicates the kind of nursing care he/she needs and how it can be accomplished" (p. 1).

Defining the care plan was a challenge since each textbook approached the term differently, from listing the components explicitly to defining it vaguely as a study of the whole patient. However, each textbook did make an attempt to define the care plan at the onset. Ambiguity of defining nursing care plans and clearly discussing aims as a learning tool was a common approach to nursing education. The journal reflections from historical research in phase one substantiated ambiguity and evasiveness of instruction methods. The researcher noted in the journal students' uncertainty about lessons taught in class and reliance upon textbook for clarity. Yet, closely aligned with the feelings of uncertainty linked to classroom lectures was the ambiguity and evasiveness of defining the instrumental nursing care plan.

Theme 2: The Plan Provides a Tool for Modification and, therefore, Evaluation of Patient Behaviors.

The nurse used care plans when a patient was ill and when the patient needed to modify daily needs. For example, "when a patient feels a lack of vigor, illness or is incapacitated, he needs a new plan to care for himself" (Textbook C, p. 59). Then "modifications of the patient's manner of living and the provision for making these modifications possible is what is meant by the plan of care for the patient" (Textbook C, p. 60). The nurse needed to reflect on the care plan frequently and "continue the study of the patient and the situation in order to modify the plan as conditions change" (Textbook C, p. 67). Lastly, the care plan was viewed as a more permanent modification for some as chronic conditions such as a permanent injury were sustained. Jensen (1929a) expressed the importance of permanent change for individual's through this statement:

"The care plan enables the nurse to see the patient in relation to his past life and with a future where care may be influenced by his illness and need change" (Textbook A, p. 9).

Whether change of a patient's condition is what prompted the need for a nursing care plan or whether the change was a product of a patient's response to care planning activities, using the tool as a method of evaluation and reflection of modifications was clearly threaded through the individual textbooks.

Theme 3: Each Patient is Treated as an Individual and Their Care Planned Accordingly.

This theme was constant in emphasizing individual care. Textbook C discussed the factors that were involved in individualizing care plans in this statement, "there is nothing that requires more insight, acumen, skill and cooperation on the part of these persons concerned with treatment, care and guidance of the patient than the working out of an effective and flexible plan of care" (p. 60) and in this statement, "since each person differs in some respect from all others, the solution of his problems differs from the solution of their problems even though there may be many similarities in the different situations" (p. 63). Textbook C also suggested that the student should consider the patient's approval of the care plan by saying, "the plan of care should be made with the assistance, the suggestion, and certainly with the approval or acceptance of the patient" (p. 61). In these earlier days of nursing care, nurses were often assigned to one patient on the ward. Typically the assignment remained unchanged until the patient was discharged.

Care plans reflected the value of one nurse assigned to one patient during ward duty. Students would care for one patient as well since care plans were designed and orchestrated for that single patient. Viewing the patient as a unique individual and providing care individualized for that specific person was less challenging in this healthcare context as compared to today's healthcare context.

By seeing the patient as an individual, nursing care planning was both scientific and humane. Textbook A said that, "with the use of the case study, students can focus attention on the whole patient to make that case more personal and complete which will add to teaching and practice of nursing" (p. 3) and "by using the case study, the student will be instructed in scientific and clinical knowledge and develop technical skill, and sympathy, kindness and tact, she will develop a real interest in the patient as an individual" (p. 2). Textbook A continued to emphasize patient value by this statement, "the patient selected should have nursing problems but many of the problems have to do with the understanding of people" (Textbook A, p. 9). Kron (1966) observed that nurses were losing their focus on patients and suggested that the nursing care plan, "provides a guide for patient-centered, rather than job-centered care" (Textbook D, p. 132). The researcher noticed that the authors in earlier textbooks attempted to steer the student away from prescriptive structure and guidelines in nursing care and to emphasize the importance of patients as individuals. Current nursing textbooks discuss individualized care with as much frequency as the historic textbooks, however, the aim is less attainable today as students are often assigned several patients to reflect the hospital conditions into which they will be graduating.

Theme 4: The Plan is Used as a Resource to Communicate Among All Teams.

Nursing care plans can encompass and reflect in writing the care of all disciplines. Because it is a tangible document and accessible to all person's caring for patients, it seemed to be utilized as a central source of information. Care plans represented collaborative, competent care which involved "coordinating the work of several persons in providing for discussion of the work to be done, or making a written plan to which everyone refers" (Textbook C, p. 64). In the most basic portrayal of an exchange of ideas, the care plan, "provides a means of communication to all personnel" (Textbook D, p. 133). Another textbook elaborated on the relationship between

communication and quality care as in: "Everyone caring for the patient will receive the benefit of the plan and better able to carry on a program of continuous care" (Textbook D, p. 133).

Textbooks in the 1960s and 1970s clearly expressed the use of nursing care plans as the hub of all patient correspondence. To communicate information effectively, the nursing care plan had to be created or at least be understood by the nurse. If the person generating the nursing care plan did not understand nuances of a patient's care then its use as a communication tool among physicians, other nurses, physical therapists, social workers, etc. was futile.

Theme 5: The Plan Identifies Current and Past Medical History.

Generally, collecting current and past medical history triggers the offset of any data collection when caring for a patient. Textbook C discussed the first glimpse a student has of the patient, "if nursing care is to conform to general outlines of treatment, the nurse must know the physician's diagnosis and his plan of therapy, and severity of condition" (p. 68). This textbook went further to emphasize collecting data on the medical condition played a vital role in analyzing: "Planning care on an individual basis means that those who plan it must acquire a certain amount of information about the condition of the patient in order that an analysis may be made of his needs" (Textbook C, p. 87). Through understanding a patient's medical state, the foreground was laid out for students to analyze various aspects of their role. For example, Textbook (F) suggested the student take down all initial information about a patient's condition so later they may pour over the information and understand how to administer to the needs of the patient.

Without this identifying information, an intensive study resulting in a care plan does little to encourage critical thinking as evidenced by: "When the student is making an intensive study of an patient she will study his medical history including all aspects of his past health as well as present illness" (Textbook A, p. 10) and "from her knowledge of the medical information, the

nurse can therapeutically assist the patient back to his highest level of performance" (Textbook E, p. 12). While the medical history is one of many areas assessed by students, it serves as a starting point for developing nursing care interventions.

Theme 6: The patient's personal and social history affects physical health and care planning.

To plan care that can be communicated and well received by the patient, textbook C emphasized the psychosocial aspects and environmental factors as crucial components of care plans for "a nurse must know a good deal about the person and the way he lives if she is to make a successful plan of nursing care" (p. 66) and "the mental condition or mood of the individual may have as much influence on nursing care as the physical condition" (p. 68). Textbook A insisted on a comprehensive view of the patient as, "a knowledge of the personal, environmental and economic situation is necessary for the complete study of a patient" (p. 2). From the author's words the treatment of the patient extends beyond the disease. Alongside collecting medical history, the ever important personal and social history is significant for, "successful care planning often depends on an understanding of a patient's mentality, economic situation, responsibilities and aspirations" (Textbook A, p. 6). Simply discussed, one textbook indicated that, "personality of the patient and his family will determine aspects of the care plan" (Textbook E, p. 12). Again, social context was reiterated and considered in a well-developed plan of care. By submersion in the patient's life as called for by the care plan, students see patients in the broader scope of life, thereby creating more humane care. Humane care fostered a valuable bond between the patient and nurse. It was this bond that many of the early authors believed healed the patient more quickly.

Theme 7: Data Collection Occurs Through the Clinical Chart.

Authors of the textbooks suggested indirectly that the student should attempt to collect as much data about the patient independently. Sex, age, race, nationality and religion were demographics listed in textbook G that would likely be found in a patient's clinical chart. Without being obtrusive to the patient, students can learn to navigate and find information. For instance, "the physical examination, prescribed treatment, social data, diagnostic test results, and patient's progress are all records the nurse has access to as a source of information" (Textbook C, p. 81).

Textbook A mentioned data collection from the clinical chart as, "from the clinical chart the nurse gets the diagnosis on admission and after physical examination and much of the identifying information" (p. 12) and "in studying the clinical chart the student learns the significance of physical findings and laboratory examinations" (p. 12). Even further, Jensen (1929a) held the quality of data within the clinical chart in highest regard, "the whole medical picture as it develops in the hospital is presented in the clinical chart and is made intelligible to the nurse by her scientific background and observation at the bedside" (Textbook A, p. 13).

Theme 8: The Patient Interview is an Important Skill in Obtaining Patient Information.

Authors described in detail a delicate balance of collecting data in an efficient manner while valuing a patient's privacy and taking the opportunity to learn about them through conversation. They placed significant value on the role of the interview as an initial way to collect data such as, "the nurse may ask the patient or members of his family certain questions and in fact must do so on many occasions in order to modify nursing care with respect to the individual's needs and preferences" (Textbook C, p. 82). They valued interviewing because it allowed the student a chance to interact with the patient on a personal level as textbook A noted, "it is important to get

the patient's history first hand" (p. 11.), and in textbook D, "the purpose of interviewing patients is to get to know them and start planning individual care" (p. 135), and in textbook E as well, "information may be gathered through planned conversation with the patient" (p. 9). Information could be elicited first hand through the interview process which was needed to formulate care plans.

Interviewing patients was an initial way of obtaining valuable data, by having verbal contact with the patient and using the contact as a necessary step in learning about the patient. Patient interviews were important but the student could learn about the patient by interviewing other members of the healthcare team as textbook a indicated, "from talking with social workers, the nurse will gain much valuable information" (p. 3) and "preliminary information is obtained from an interview of the head nurse" (p. 11). The authors encouraged interviewing these persons to fill in the gaps of missing data.

Theme 9: Observing the Patient Leads to Care Plan Modifications.

The textbooks indicated that during the care planning process observation was necessary. Textbook A states that, "the nurse should begin any study by noting her own observations which become more vital as students follow the daily progress of their patients" (p. 4) and "to observe the patient, and to listen to him are the first steps in making a study" (p. 11). In textbook C, "If the nurse is a keen observer, she will find that the patient himself is the most important source of information" (p. 83) and "the ability to collect significant information and to observe accurately is useful to everyone, but it is particularly essential in the practice of medical arts and formation of care plans" (p. 67). Textbook D added: "Make your own observations of the patient when they are first admitted" (p. 135).

Beyond initial encounters, observation became part of the process in discharging the patient, Textbook A noted, "the nurse realizes from her observations of the patient what he will need help on in discharge (p. 3). Concerning observation, textbook A stated that it "must be accurate and the nurse must have a background of scientific knowledge in order to understand the significance of what she sees" (p. 11) and in textbook B, "select and organize all pertinent information and use it in developing her ideas about modification and understanding of nursing care" (p. 612). Textbook D added, "observe the patient's appearance, facial expression, speech and behavior to gather information for the plan of care" (p. 135). Lastly in textbook E, "behavioral clues, reactions to personnel, reactions to care and treatments, facial expressions, tone of voice, all may assist the nurse in developing the care plan" (p. 10).

Theme Clusters

Clustering of themes was accomplished through the process of intuiting. The nine themes were individually listed to allow the researcher to visualize each theme and contrast and compare the themes, thereby seeking relationships between them. Forming a concise group which consisted of significant statements and formulated meanings as learning objectives was imperative, through combining and condensing themes based on interrelationships, the theme cluster "learning objectives" became the concise group. Through the inductive processes of negation and imaginative variation, relationships between and among the themes were established or rejected. The nine themes clustered into four clusters which were sequential and progressive.

The first category consisted of themes which described the many ways of defining the nursing care plan. It included the individual themes of "the care plan is viewed as the study of a patient" and "the plan provides a tool for modification and therefore evaluation of patient behaviors." A

second cluster of themes emerged, describing the components of the nursing care plan. Related themes in this cluster included: (a) the patient's personal and social history affects the physical health and care planning and (b) the plan identifies current and past medical history. The third theme cluster grouped the themes related to the learning objectives of the nursing care plan. The themes which comprised this category included: (a) Each patient is treated as an individual with their care planned accordingly and (b) The plan is used as a resource to communicate among all teams. Lastly, the fourth theme cluster that emerged involved the process of creating a nursing care plan and included the individual themes of: (a) Data collection occurs through the clinical chart, (b) the patient interview is an important skill in obtaining patient information, and (c) Observing the patient leads to care plan modifications. The sequential nature of these theme clusters build from a basic definition to an overall process and suggests the process of evolving. Whether this evolution is of a patient from illness to health or the evolution is of the student to a professional. Lastly, the nursing care plan is an evolving tool of instruction. Appendix B illustrates an example of the phenomenological analysis of the data from significant statements with formulated meanings to themes then theme clusters. The outcome of the data analysis was an exhaustive description of the nursing care plan as an instructional tool.

Exhaustive Description of the Phenomenon

An exhaustive, historical description of writing and developing nursing care plans as instructional tools emerged through phenomenological analysis of data. The historical analysis served to enrich the description. It is described as follows: The nursing care plan is an instructional tool which encourages a process where the student evolves both personally and professionally. Through first defining the nursing care plan, the student has a vision of the endeavor set before her. The nursing care plan is not only a written study of the whole patient

which includes modifications of the patient's manner of living but is also personalized for each individual and thereby signifies the kind of nursing care the student is destined to impart. How patient care can be approached stems from goals the student develops. Goal development commences through cognitive integration and synthesis of medical history, social history, and an individualized perspective of nursing care.

Once the nursing care plan has been defined, discussion of what the student should learn from the experience naturally follows. The nursing care plan is an opportunity to select and organize pertinent information. From newly formed cognitive connections, insight and understanding of complex nursing care evolves. Applying and testing knowledge gained from nursing care plan development to a nursing situation allows theoretical concepts to cross the threshold into meaningful learning. Clarity of the student's role in approaching each patient as an individual problem to be solved encourages intelligent, individualized plans of care which are then tools for communication amongst interdisciplinary teams, other students, and student and educator.

As students developed a technique for investigating nursing problems, they established a link between practice and research. Students utilize the scientific method as they assemble data, seek information about patients in an organized systematic way, and justify components of care with the important underlying scientific data. All together, nursing care plan development serves as a basis for developing appropriate interventions.

Constituents of the nursing care plan emerged slightly changed as each time period was journeyed. Changes were consistent alongside a transforming climate of healthcare. Medical diagnosis, social history, history of current problems, present signs and symptoms, laboratory findings, and treatments were initially the only factors affecting nursing care. Beyond these factors, students used their ingenuity to be creative in care planning. In a more prescriptive

modern society, the nursing care plan consists of assessment information which does include some of the aforementioned items. After assessment information, students were prescribed to develop nursing diagnoses followed by planning of outcomes and goal statements. Implementation of care, then an evaluation of how the care was received and or responded to concluded development and writing of a care plan. While similarities of data collection and data components exist between an historic care plan and modern care plan, it can be concluded that today's care plan for students is more dogmatic. As a further example, 21st century textbooks described in detail where to place various columns of information within the written care plan document. Suggestions were made about how to approach thinking about each component.

Historically, data collection was ongoing and perceptively added to enhance the richness of the student's care plan. As healthcare became more rigorous with advancing technologies and shifts in nursing and medical theory, the nursing care plan has maintained similar high reaching learning objectives but has allowed little individuality in its expression. Once the authors discussed components of the nursing care plan, they discussed ideas for the process of writing and carrying out the care plan. They gave little attention and time to cultivating the learning experience of developing care plans as evidenced in the formulated meanings of "learning objectives." Again, this quick transition from understanding to creating a care plan is reflective of today's healthcare context where quickly understanding a patient, providing minimal care followed by a fastidious discharge from the hospital is common place. Cultivating the nurse and patient relationship is hardly permitted as time for interactions are short.

Developing, writing, and executing the nursing care plan involved a great deal of analyzing, interpreting, and synthesizing patient information and context. The majority of the textbooks suggested the process of the nursing care plan began with the first encounter with a patient

through observation and simultaneous interviewing. Filtering through the patient's chart, listing all data concerning the patient, investigating sources of information, categorizing and analyzing data all lead to and occurred with thinking critically. Once the nurses recorded a broad overview of the patient, problems that were most critical became the focus and included identifying problems or needs, which led to developing long term goals in relation to the expected course of the patient's condition and short term objectives. The majority of the written part of the plan was completed at this point, and the student was to implement the care and continually observe and interview the patient to evaluate how he or she was responding to the developed care plan. Many times modifications to the plan were needed based on continual assessment. In this evaluation process, scientific rational for an intervention was required and reflection on what the student believed they learned about the patient, illness and nursing care occurred.

Overall, the textbooks summarized their discussions of the nursing care plan. The authors suggested through development and writing care plans, acculturation to the nursing culture ensued. Ideally, students learned how to look beyond physical or medical problems to the individual as a whole, and to prioritize individualizing care. Throughout the process, the student was continually challenged to use higher order cognitive processes and hopefully engaged in meaningful learning. This meaningful learning would position the student to think critically and quickly once graduated and, therefore, providing patient care as a registered nurse. The nurse graduate could hopefully transition more easily from the academic setting to practice setting. This critical thinking, as an ideal outcome of using nursing care plans is most needed for nursing culture to continue to acclimate to today's multifaceted, highly acute healthcare setting.

Fundamental Structure

The fundamental structure of the nursing care plan experience according to five historical textbooks and two modern day textbooks is an evolving journey of learning and self-development. The journey is characterized by first understanding what is a nursing care plan. Through detailed discussion elaborated with examples, understanding of nursing care plans ideally lead to internalization of the meaning of care plans for students. Through internalization, students make learning personal and meaningful. Ultimately, through the use of the nursing care plan, students acquire skills, knowledge, and values which enable them to grasp the nursing perspective, to think and feel like a prepared, critical thinking individual who can excel as a professional nurse.

Summary

The findings that resulted from Colaizzi's (1978) method provided rich descriptions of historical and modern day approaches to teaching, developing, and writing nursing care plans. Multiple sources of information, including five historical textbooks and two modern textbooks, historical archives, document analysis, and journal notes furnished the data permitting description and insight into nursing care plans as instruction tools. Nine themes emerged as a result of qualitative data analysis using Colaizzi's (1978) guidelines. The nine themes rendered four sequential clusters. An exhaustive description of the learning and teaching experience of developing and writing nursing care plans was presented, culminating in a statement of the essence or fundamental structure of the experience.

Bloom's Revised Taxonomy

After exploration of textbook with Colaizzi's (1978) guidelines, yet another degree of analysis was added by applying Bloom's revised taxonomy (Anderson et al., 2001) to the

formulated meanings under theme cluster two labeled "objectives of the care plan as a learning tool." The term "learning objective" was used in place of the lengthy theme cluster name. Bloom's taxonomy as a final framework serves as a method of analysis to help clarify the value of textbook as data. The researcher's emphasis is on student-oriented, learning-based, explicit, and assessable statements of intended cognitive outcomes. As expounded in Chapter three, the use of Overbaugh's (2008) associated verbs and cognitive processes facilitated classifying the formulated meanings which became theme cluster two, "learning objectives." These objectives were classified according to the cognitive processes in Bloom's revised taxonomy (Anderson et al., 2001).

Learning Objectives

Critically analyzing learning objectives of the nursing care plan for three distinct time periods: 1920s to 1940s, 1950s to 1970s, and 21st century was the last and equally as essential phase of data analysis for this research project. The researcher chose the theme cluster "learning objectives" because objectives help focus attention and efforts as well as they indicate what individuals want to accomplish. In education, objectives indicate what educators want students to learn. They are "explicit formulations of the ways in which students are expected to be changed by the educative process" (Bloom et al., 1956, p. 26). For readability and due diligence to the historical perspective, objectives are listed under their respective textbook and follow a sequential format of most historic to most recent. The textbook will maintain the previously assigned alphabetic letter. The objectives will be labeled with the corresponding textbook alphabetic letter, followed by "O" for objective, and a number. For example, the second learning objective from Jensen (1929a) was labeled 'AO2.' Following each objective was the result of analysis using (a) Bloom's extensive work on the analytic journey of learning objectives

(Anderson et al., 2001) (b) placing each objective according to verb in a cognitive process classification (Anderson et al., 2001 & Overbaugh, 2008), and (c) interpretation of the objective in terms of what the desired learning outcome would be (Anderson et al., 2001 & Keating, 2006). The researcher presented these results in narrative for each textbook.

A. Jensen, D*. (1929). Student's Handbook on Nursing Case Studies.*

AO1. Instill interest of the individual patient on the ward experience which will improve nursing care given to each patient.

Instill is synonymous with create (Roget, 2010). By instilling interest, the care plan aims to create a new view of the patient which can further improve the student's understanding and quality of care given to each patient.

AO2. Case studies encourage a disposition of lifelong learning and instill value of the patient as an individual.

Through the use of case studies as an instruction method, the student creates a disposition of learning and value for patients as individuals thereby creating a new point of view. Therefore, Bloom classifies this as creating.

AO3. Case studies will apply knowledge rather than emphasize skill acquisition.

Knowledge is applied to nursing situations which implicates the student is employing information in a thoughtful manner rather than an old way of emphasizing rote skills. Therefore, applying is how this objective is classified.

AO4. Give the more important underlying scientific data that serve as a basis for selecting or designing each nursing intervention.

Through distinguishing scientific data that supports nursing actions, the student analyzes each nursing intervention through a scientific lens, thereby distinguishing the scientific principles of performing a nursing intervention. Learning objective AO4 is classified as analyzing.

AO5. Case studies are tools that translate theoretical knowledge into practical knowledge which improves patient care.

Case studies call the student to process theoretical knowledge and make the knowledge personal and practical. Through this translation, knowledge becomes usable at the bedside. The objective is categorized as understanding. The student can explain the idea or concept of the translated knowledge.

AO6. Through the case study, she will develop a greater interest in all patients.

Because the case study is a unique approach to in-depth study of patients, the objective hopes the student will develop interest in all patients. Develop is a verb used with objectives that aim to facilitate the cognitive process of creating.

AO7. Study each patient as a whole enabling the delivery of more intelligent and sympathetic nursing care.

Approaching a patient as a complex individual embedded in a social system rather than a disease process of medical diagnosis, richer understanding is developed about the patient's illness and required nursing care. The objective challenges new understanding to add intelligence and sympathy to nursing care.

AO8. Through communication, the student identifies valuable patient data.

Identify is a verb used with the intellectual behavior of understanding. As the objective implies, through communication between the patient and student, the student learns to identify and understand significant data about a patient.

AO9. Develop powers of observation.

Develop is a verb used with creating. Because the case study is fluid and must always be modified according to the patient's condition, the student creates a keener sense of observation in order to modify interventions accordingly.

AO10. Develop a technic in investigating nursing problems and assembling data.

Develop is a verb used with creating. Through this objective, the case study will aid the student in creating a technic or more sophisticated and competent approach to collecting relevant data on patients and then drawing out problems from the data.

AO11. Students will develop understanding of pathophysiology.

Two verbs associated with separate intellectual behaviors are used in this objective: develop and understand. Develop is a verb used in a learning objective when the desired outcome is creating. Understanding is an intellectual behavior of Bloom's Revised Taxonomy. Here, it is used differently as a noun. The objective calls for a developed understanding; therefore, it is also classified as understanding.

AO12. Develop awareness of the opportunities for health teaching on the ward.

Develop is a verb used with creating. Because the case study calls for discharge planning discussion, the student nurse has to develop a sense of awareness for teaching opportunities.

AO13. Emphasize the importance of understanding treatment.

A case study calls for the recommended treatments to be discussed. Therefore, the student must be able to explain ideas or concepts behind the reasoning for a treatment. In explaining ideas or concepts as justification for treatment, understanding is the intellectual behavior desired.

AO14. Develop awareness of role as health educator.

Because case studies address patient learning needs, the objective implies that the student will develop an awareness of the educating roles of nurses. Again, the student will create a new point of view by using the case study. Therefore, the objective is classified as creating.

AO15. Hone abilities to compare, analyze, and interpret facts about patients and illnesses.

Compare and analyze are verb forms used with analyzing. The case study calls for the student to distinguish important facts from useless data when considering a patient's condition and course of illness.

AO16. Differentiate normal values from abnormal values.

Objectives aimed toward the cognitive behavior of analyzing utilize the verb differentiate. Through this objective, the student can distinguish between normal and abnormal data values which mean they must recognize the difference between data points. The objective is classified as analyzing.

AO17. The individual nurse makes chart data more meaningful by applying scientific knowledge.

Through the application of scientific knowledge to otherwise insignificant data, information becomes more meaningful. Applying is the word associated with Bloom's Revised Taxonomy and is an intellectual behavior of the taxonomy.

AO18. To start a case study, understand nursing and medical history.

Understand is a word clearly used with the intellectual behavior, understanding. The objective implies the student must first understand the patient's history before beginning a case study. This objective is classified as understanding.

AO19. Through self experience of illness, student will develop insight for how others are affected.

Creating is the intellectual behavior associated with the verb develop. As a student experiences natural illness, she will begin to develop a different insight on how patients may feel.

AO20. The nurse should understand the role of the community for individuals;

AO21. The nurse should understand how disease affects community.

By using case studies, the student is called to see the individual as a member of a larger community. Therefore, understanding is the cognitive behavior associated with these objectives.

AO22. Data is not only collected but interpreted.

Interpret is a verb used with applying. The facts will be used and seen in a new way if the student is able to apply them.

AO23. Distinguish significant patient data.

Distinguish is used with analyzing. Students will be able to distinguish between significant and insignificant data.

AO24. The nurse must understand each treatment, medicine, or diet effect on symptoms.

In constructing a case study, the student will begin to understand treatments, medicine, and diet on the disease process. Understanding is the intellectual behavior of this objective.

AO25. Case studies require analysis of data which is important to establish background.

Analysis is a word used with analyzing. Through analyzing data, the student will establish a vivid picture of the patient's entire background.

AO26. Case studies encourage skill development and application.

Development is used with the intellectual behavior of creating. This objective also implies further application which is an objective for applying.

AO27. Thoughtful description synthesizes understanding.

Since synthesize is synonymous with create, therefore creating is the intellectual behavior targeted with this objective (Roget, 2010). By using thoughtful description, the student will create understanding.

AO28. Become familiar with the professional literature in the field.

To become familiar is also remembering (Roget, 2010). The care plan requires references for sources and the student must be able to recall or remember the sources for future work and reference.

AO29. Seek information about patients in an organized, systematic way.

Seek is a verb associated with the intellectual behavior of remembering. Here, the care plan calls for basic demographic information about a patient.

AO30. Record information that has practical value.

Record also would be classified as remembering, the student is simply transcribing information from one source to another.

B. National League for Nursing *(1937). A Curriculum Guide for Schools of Nursing.*

BO1. The student learns to select and organize all pertinent information.

Select is a verb form used with understanding. By selecting pertinent information, the student is able to understand ideas or concepts particular to the individual patient.

BO2. Develop own insight and understanding of nursing care by using pertinent information collected.

Develop is a verb used in creating. By developing insight and understanding, the student is creating their own point of view about nursing care for their particular patient. As seen with objective AO11, understanding was used as a noun but the desired outcome was also for understanding. Therefore, understanding is also an aim of this objective.

BO3. Care plan will provide students the opportunity to apply and test knowledge gained in a nursing situation.

Apply is a verb form used in applying. By applying knowledge gained, the nursing student is using information in a new way. Test is a verb form used in analyzing, by testing knowledge gained, the student is distinguishing between different parts of knowledge.

C. Harmer, B. and Henderson, V. *(1939). The Principles and Practice of Nursing.*

CO1. To create an intelligent, individualized plan for the care of a patient.

Create is a verb form used with creating, through the use of this verb the care plan will aid the student in creating a new point of view on the plan of care.

CO2. To use as a means of communication among team members and colleagues.

Use is a verb form which implies applying. The student will be able to apply the care plan as a means of communication among others.

CO3. Approach each person's case as a problem: How may this patient be helped to regain or maintain health? How may he or she be made as comfortable as possible for the rest of his or her life?

A specific verb is not present in this objective to classify it among Bloom's revised taxonomy easily. However, by virtue of the example questions, this objective represents understanding. By approaching each person's case as a problem, the student has to be able to explain concepts about the patient which contribute to the problem. Understanding is the aim of this objective.

CO4. Clarify what is to be accomplished with nursing care over the period of time the patient is expected to be in the hospital, and the plan of home care that she makes in cooperation with the patient, the family, and the social worker before the patient leaves the hospital

According to Roget's (2010) thesaurus, clarify is synonymous with analyze. Therefore, analyzing is the aim of this objective. This learning statement communicates a desire for the student to be challenged to distinguish between the different parts of nursing care while in the hospital and in preparation for discharge.

CO5. A thorough assessment and understanding of the patient will individualize care.

Understanding is the intellectual behavior of this objective. After assessment and understanding have been established, patient care which is catered to the individual will be delivered.

CO6. Specific data should be listed under factors that influence nursing care.

Listed is a verb associated with the cognitive behavior of remembering. Through this learning objective, the student will recall or remember the information that should affect nursing care delivered.

CO7. From the specific data, interpretation and analysis of how they contribute to nursing care should be listed.

Here, the learning objective is multifaceted. Before listing, the student must analyze specific data. Analysis and interpretation are two words associated with the cognitive behavior of analyzing. Once this higher order cognitive process has been accomplished, the student then lists the results. List is a verb associated with remembering.

CO8. Evaluation of care plan success and execution is an important part of the learning process.

Evaluation is a verb associated with the intellectual behavior of evaluating. Through this objective, the student is charged with justifying a decision.

CO9. Examine nursing measures through reflection.

Through this learning objective, the student is called to distinguish between the different nursing measures. Examine is a verb associated with the intellectual behavior of analyzing.

D. Kron, T. *(1966). Nursing Team Leadership.*

DO1. Guide patient-centered care.

This objective implies through development and use of a nursing care plan, a new way of patient care will replace an old way of patient care. The student is called to apply aspects of care in a new way, a more patient-centered way. By virtue of this objectives statement, applying is the cognitive process addressed.

DO2. Communicate among the healthcare team.

The care plan will be used as a tool for communication among the healthcare team. Use is a verb for applying. The care plan will serve as a tool for communication, albeit the student must know who, how, and what the care plan entails.

DO3. Provide a guide for supervising.

The care plan will be used as a tool for the head nurse or instructor to supervise or evaluate the student. In order for it to be a favorable evaluation, the student must be able to justify or stand by the content of the care plan. Therefore, this objective is classified as evaluating.

DO4. Serve as a basis to evaluate patient care quality.

Evaluate is a verb form used with evaluating. Because of the detailed information and process of creating the care plan, it can serve as a tool for the student to justify or stand by a decision on quality of care provided.

E. California Department of Public Health (1970). *Guidelines for Nursing Care Plans.*

EO1. Eliminate “routine care” by focusing on the individual person.

To eliminate an old way of doing by replacing it with a new way, the student is called to apply aspects of care in a new, more individual way. By virtue of this objective statement, applying is the cognitive process addressed.

EO2. Care plan will be used to communicate information about the patient and his needs to all nursing personnel.

Use is a verb for applying. The care plan will serve as a tool for communication, although the student must know who, how, and what the care plan entails.

EO3. Provide a written format for continuity of patient care.

Again, this objective is similar to DO1 in that it implies care has been discontinuous and is being replaced by a new continuous way of care. The student is called to apply aspects of care in a new more continuous way.

EO4. Allow for meaningful entries in nursing notes due to pertinent information collected.

This objective is creating; entries are a written summary of nursing care. By collecting pertinent information and having it available, the care plan aims for the student to write the entries from a new meaningful point of view.

EO5. Tool for writing discharge teaching.

Write is a word with creating, because of the comprehensive nature of a care plan, the student will be able to sift through its contents and determine a patient's discharge needs from a new perspective.

EO6. Interviewing, observation and communication skills are developed through data collection.

Important techniques for assessment and delivery of patient care are focused upon in this objective. In collecting data for the NCP, techniques of interviewing, observation and communication are developed. Developed is a verb associated with creating.

EO7. Data collection includes differentiating irrelevant information.

Differentiating is a verb associated with analyzing. Through this learning objective the student is to distinguish which information is valuable to patient care and which information is not valuable.

EO8. Identify nursing actions.

Student identifies or explains appropriate nursing actions. The intellectual behavior of understanding is associated with the verb identify.

EO9. Appraise and analyze data.

Appraise is a verb associated with evaluating, and analyze is a verb associated with analyzing. In this brief learning objective, these two cognitive behaviors are addressed.

EO10. Care planning calls for thoughtful analysis of data.

Analysis is the ability to distinguish between different parts. In this learning objective, care planning will help the student distinguish data that is useful in patient care and data that is not useful.

EO11. Select problems according to relevance.

Select is a verb associated with understanding. The objective desires the student to explain a concept, the concept is the patient's most relevant problem.

EO12. Develop self-awareness.

Self-awareness is valuable when caring for the needs of others. Therefore, in this learning objective develop is the desired verb for self-awareness. Creating is the cognitive behavior addressed by using the verb develop.

EO13. Reflection and evaluation of nursing action is necessary.

Evaluating is an intellectual behavior which asks the student to justify a decision, here, the learning objective asks the student to justify the nursing actions taken.

F. Ackley, B. and Ladwig, G. *(2008). Nursing Diagnosis Handbook: an Evidence-Based Guide to Planning Care.*

FO1. Aid the student in learning the nursing process.

By learning the nursing process, the student becomes able to distinguish the different aspects of the nursing process, therefore using the cognitive process of analyzing.

FO2. A problem-solving approach designed to enhance the profession of nursing.

By using a cohesive, thorough tool such as the care plan, the objective lends itself to the process of creating. Because the care plan is viewed as a problem-solving approach which is sound, a new "enhanced" profession of nursing is created.

FO3. Promote quality client care through the integration of evidence-based nursing.

Again, the care plan aims to address creating. The student integrates evidence-based nursing, thereby leading quality patient care. A new sense of care is created because of the care planning process.

FO4. The student will demonstrate critical thinking skills to make appropriate nursing diagnoses.

Demonstrate is a verb associated with the intellectual behavior applying. In applying, the student is called to use information in a new way.

FO5. Recognize common symptoms.

Recognize is associated with understanding. The learning objective challenges the student to understand symptoms associated with various disorders.

FO6. Think analytically about symptoms.

Not only is the student asked to understand symptoms but further analyze them. Thinking analytically is associated with the intellectual behavior of analyzing.

FO7. Textbook as a tool to help learner develop diagnostic reasoning skills used in care planning.

Through using the textbook, the student should be able to develop or create reasoning skills. In essence, the student will create a new point of view which will be used in NCP development.

FO8. Symptoms are identified and listed.

First, the student must identify symptoms which is understanding. Once the symptoms are understood, they are listed which is a verb associated with the intellectual behavior of remembering.

G. Potter, P. and Perry, A. *(2009). Fundamentals of Nursing.*

GO1. A tool for learning the problem-solving technique of nursing and the nursing process.

The care plan aims to translate theory material (problem-solving and the nursing process) and transfer the knowledge to practice. Therefore, the objective is for the cognitive process, analyzing. Can the student distinguish between the different parts of the process and problem-solving?

GO2. Help develop skills of written communication.

Develop is a word used with creating. Written communication is one of the most succinct ways a nurse can portray concerns about a patient. The care plan calls for the student to take

what they see and translate it into their own words, thereby creating the skill of written communication.

GO3. Aid student in understanding the organization skills needed for nursing care.

By developing and using a care plan, the student begins to explain ideas or concepts about organization needed for demanding nursing care, Bloom's revised taxonomy classifies this learning objective as understanding.

GO4. Apply knowledge gained from the nursing and medical literature and the classroom to a practice situation.

Apply is a verb used with applying. The care plan is application of theory material such as nursing and medical literature and classroom discussions. The student is being challenged to use theory material in a new way.

GO5. Listing what needs to be done improves continuity of care.

Continuity of care is valuable for safe nursing practice. One would not want to be repetitious or neglectful in nursing actions. The learning objective is classified as remembering, since listing is a verb associated with this cognitive behavior.

GO6. Nursing care plans as learning tools for the process of planning care.

Planning is synonymous with the verb developing (Roget, 2010). The learning objective suggests nursing care plans will aid in the creation of a way to take care of patients, thereby creating being the intellectual behavior addressed.

GO7. Nursing care plans as learning tools for prioritizing patient needs.

To prioritize one must understand the concepts in which they are prioritizing. Therefore, the learning objective is one of understanding.

GO8. Interventions should be explained by rationale.

Through explaining interventions, the student is called to understand why they chose particular interventions. The intellectual behavior is understanding.

GO9. Through documenting scientific rationale, the importance of evidence-based practice is identified.

Again, understanding is sought with this learning objective. By documenting rationale, the value of using evidence-based practice is understood.

Presented are the results of applying Bloom's revised taxonomy (Anderson et al., 2001) to the formulated meanings of the theme cluster "learning objectives." Formulated meanings were derived from Colaizzi's (1978) guidelines for data analysis which was conducted with five historic and two modern nursing textbook on nursing care plans. With the assistance of Overbaugh's (2008) list of verbs associated with Bloom's revised taxonomy and the work of Benjamin Bloom and Keating (2006) as a guide to analyzing learning objectives according to Bloom's revised taxonomy these findings came to fruition.

The researcher analyzed 76 learning objectives and further interpreted their meaning. Interpretations of each objective followed the objective in the form of brief narrative. She listed objectives in sequential order from most historic to most recent and categorized them under their respective textbook. By categorizing the objectives in this fashion, she maintained rigor of the historical context. The researcher was also able to make observations about how objectives developed over time.

Results are presented in further detail below. They were as follows: (a) seven objectives were classified as remembering, (b) 22 objectives were classified as understanding, (c) 14 objectives were classified as applying, (d) 13 objectives were classified as analyzing, (e) five objectives were classified as evaluating, and (f) 21 objectives were classified as creating.

Objectives AO11, AO26, BO2, CO7, EO9, and FO8 aimed to elicit two cognitive processes and, therefore, were counted twice for a total of 82 classified objectives.

Objectives Summary by Time Period

Chart 1 is a pictorial representation of learning objective classification by intellectual behavior and time period. The most historic time period was the time period where case studies were initially introduced. Three historic textbooks were examined and 42 learning objectives were extracted. Four of these 42 learning objectives, AO11, AO26, BO2, and CO7 were classified as two different cognitive processes, and, therefore the final number of learning objectives for the time period was 46.

Of the 46 learning objectives, five used verbs for remembering; 14 used verbs for understanding; seven used verbs for applying; seven used verbs for analyzing; one used a verb for evaluating, and 12 used verbs for creating.

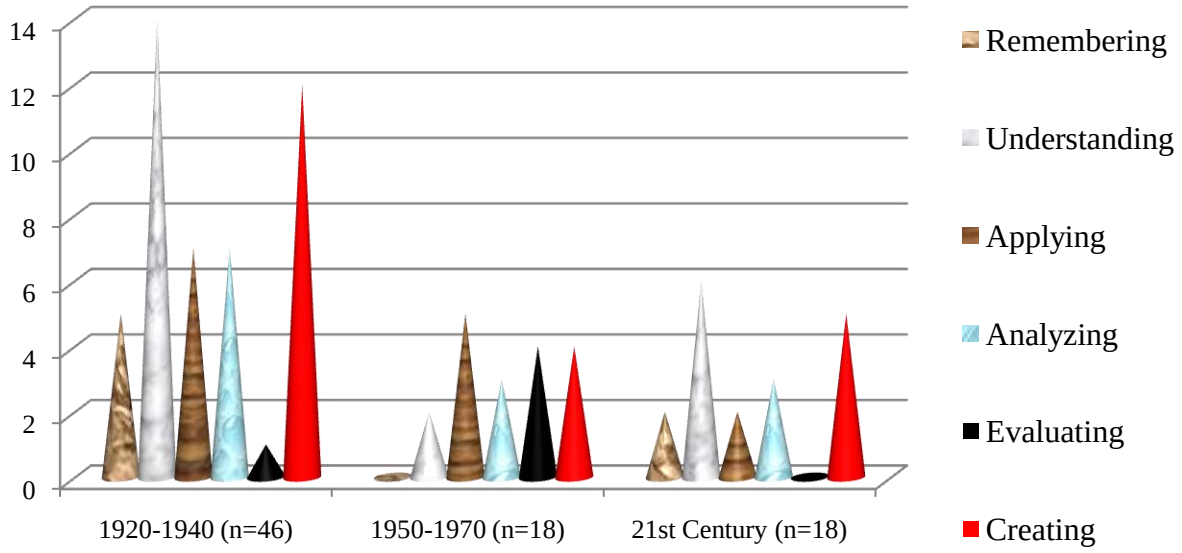
In the second time period, 1950s to 1970s, the researcher extracted 17 learning objectives from two historic textbooks. One learning objective, EO9 used verbs for two different cognitive processes of Bloom's revised taxonomy. Overall, 18 learning objectives were classified for this time period where the case study was consistently referred to as a care plan and became a tool for communication among the vastly growing interdisciplinary team.

Formulated meanings that represented individual learning objectives for time had a relatively even distribution among cognitive processes with one exception, remembering. Zero learning objectives extracted from historic textbook used verbs associated with remembering. Two objectives were aimed to elicit understanding, five for applying, and three for analyzing, four for evaluating and four for creating.

Two 21st century textbooks yielded 17 learning objectives, with one learning objective, FO8 classified as two cognitive processes resulting in a total of 18 learning objectives for the time period. In an era signified by technology and the use of care plans in supporting evidence-based practice, zero learning objectives aimed to elicit evaluating. Two learning objectives represented remembering, six for understanding, two for applying, three for analyzing, and five for creating. Chart 1 pictorially represents the results.

Chart 1

Objectives Classification by Intellectual Behavior and Time Period



Note. Evaluating and remembering are further addressed in question three.

Objectives Summary by Textbook and Cognitive Process

Table 7 represents the results of objective analysis according to the learning objectives respective textbook. Of the seven textbook, five historic textbook and two modern textbook, Jensen (1929a) produced the most formulated meanings which resulted in the theme cluster "learning objectives." Jensen (1929a) introduced case studies which later became care plans.

Therefore, her introduction and elaboration of the case study was certainly the most extensive. Her textbook became more of a "handbook" for creating case studies.

Jensen's (1929a) initial textbook for case studies yielded learning objectives most commonly aimed to elicit cognitive processes of understanding and creating. Evaluating was a cognitive process which was not elicited by any of the formulated meanings extracted from this textbook. In the National League of Nursing's (1937) guide to developing curriculum, learning objectives addressed understanding with the most frequency. Applying and creating were also aims of learning objectives with one learning objective for each cognitive process.

Remembering, understanding, and analyzing were the most frequently elicited cognitive processes of learning objectives extracted from Harmer and Henderson (1939). Applying, evaluating, and creating, each one separately had one learning objective. Harmer and Henderson (1939) was the only textbook which had learning objectives for each of Bloom's six cognitive processes in his revised taxonomy (Anderson et al., 2001). This textbook was the first to introduce the case study, termed care plan, as part of an extensive nursing textbook rather than one about case studies as revealed in Jensen's (1929a) work or in the National League of Nursing's (1937) guide for curriculum. Therefore, one would expect an in-depth discussion of the care plan.

Kron (1966) published in a time of intense change for healthcare. Patient care was approached as a collaborative effort of all health sciences disciplines. Communication was of essence in this team approach in order to provide sound, continuity of care. Two learning objectives from this textbook aimed to elicit applying and two aimed to elicit evaluating. Of the four total objectives extracted from Kron's (1966) textbook, half of the objectives were aimed

for evaluating. This is the largest percent of learning objectives for any of the analyzed textbooks to focus on evaluating as a cognitive process.

The California Department of Public Health's (1970) keynote publication which served as a reference for many schools of nursing had a fairly even distribution of learning objectives among all of the cognitive processes with the exception of remembering. Two learning objectives were for understanding, three for applying, three for analyzing, two for evaluating and four learning objectives used verbs for the cognitive process of creating.

For the two modern day textbooks, understanding and creating were the two most commonly elicited cognitive processes as evidenced by verbs used in the learning objectives extracted from textbook. In Ackley and Ladwig (2008), a required textbook for most first year nursing students, one learning objective was for remembering, two for understanding; one used a verb to elicit applying, two learning objectives for analyzing and three learning objectives for creating. Potter and Perry (2009), a textbook in its seventh edition, did not have learning objectives which aimed to elicit evaluating nor did Ackley and Ladwig (2008). One learning objective elicited remembering and four elicited understanding in Potter and Perry (2009). Applying and analyzing each had one learning objective and creating had two. The results are presented in Table 6.

Objectives Summary by Cognitive Process

Quantification of objectives by cognitive process was calculated by adding objectives for the corresponding cognitive process for all seven textbooks, Chart 2. Of the 76 objectives, six objectives were classified as two different cognitive processes, totaling 82 classified objectives. Bloom's revised taxonomy (Anderson et al., 2001) called for the following distribution of

Table 6

Objectives Classification by Textbook

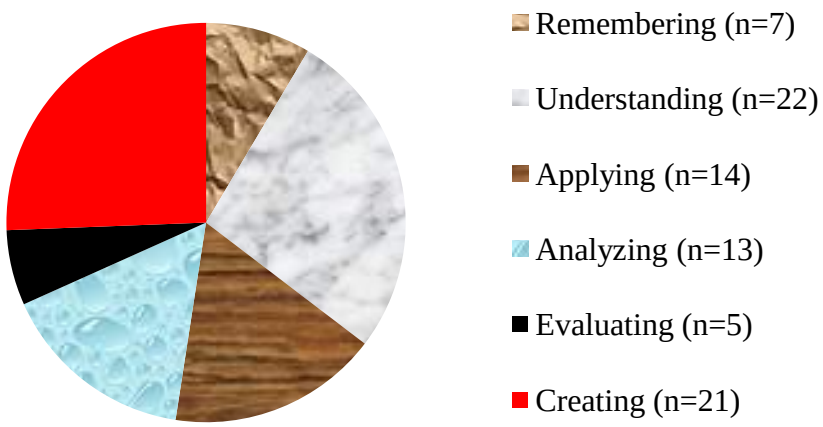
Cognitive Process	A	B	C	D	E	F	G	TOTAL
1.Remembering	AO28, AO29, AO30		CO6, CO7			FO8	GO5	7
2.Understanding	AO5, AO7, AO8, AO11, AO13, AO18, AO20, AO21, AO24, AO27	BO1, BO2	CO3, CO5		EO8, EO11	FO5, FO8	GO3, GO7, GO8, GO9	22
3. Applying	AO3, AO17, AO22	BO3	CO2	DO1, DO2	EO1, EO2, EO3	FO4,	GO4	14
4. Analyzing	AO4, AO15, AO23, AO25		CO4, CO7, CO9		EO7, EO9, EO10	FO1, FO6	GO1	13
5. Evaluating			CO8	DO3, DO4	EO9, EO13			5
6. Creating	AO1, AO2, AO6, AO9, AO10, AO11, AO12, AO14, AO19, AO26, AO27	BO2	CO1		EO4, EO5, EO6, EO12	FO2, FO3, FO7	GO2, GO6	21

Note. Objectives AO11, CO7, EO9 and FO8 are in two categories of cognitive processes. Evaluating was addressed in historical and modern textbooks and is discussed in question three.

learning objectives across all three time periods: (a) seven objectives used verbs for remembering, (b) 22 objectives used verbs for understanding, (c) 14 objectives used verbs for applying, (d) 13 objectives used verbs for analyzing, (e) five objectives used verbs for evaluating, and (f) 21 objectives used verbs for creating. The two most commonly aimed cognitive processes were understanding and creating. The least common aimed cognitive processes were remembering and evaluating with applying and analyzing moderately aimed for in learning objectives. Chart 2 details the results.

Chart 2

Objectives Summary by Cognitive Process



Discussion

The primary purpose of this study was to explore developing and writing nursing care plans as an historical instruction tool in nursing education and draw conclusions, supported by findings of this study, about implications of the nursing care plan on nursing science education. Accrediting bodies for nursing schools, NLNAC and AACN, have questioned nursing education tactics. Their call is for nurse graduates who can think critically and deliver safe nursing care in

a fast-paced, highly acute healthcare setting. Presently, the assumption is that nursing schools have not adapted their ways of teaching over time to accommodate changing students and the changing profession of nursing. The historical narrative that describes the changing student, changing healthcare context and consistent use of nursing care plans as an instruction tool is presented in Chapter two.

Gleaned from phase one was the understanding that nursing care plans have existed for over 80 years and are still used today in nursing education as a steadfast instruction tool. Educators rely heavily upon this tool to transition classroom, "theoretical" content, to ward, "practical" content. Nursing care plans have gone unexamined for their use as a proxy for nursing science education. Accrediting bodies have drawn unwanted, negative attention to nursing education practices, and this fact, combined with the results of Phase one, and collaboration with respected archivists and librarians, the historical analysis of nursing care plans and their use was warranted.

Historically, the researcher discussed the evolution of care plans in the context of healthcare practices and nursing education. Using nursing care plans as the focus of this historical study resulted from a culmination events. Phase one resulted in historical narrative from 1890 to present describing nursing student characteristics, context of nursing schools, nursing education and healthcare kept within the perspective of each time period. Time periods were in ten year increments up to present day. Analysis of nursing care plans through the textbooks, Colaizzi's (1978) guidelines, and Bloom's revised taxonomy (Anderson et al., 2001) revealed three narrative time periods describing the developing and writing of care plans, nine themes, four theme clusters, and care plan learning objectives assessment. Using the historical theoretical framework of intellectual history combined with Colaizzi's (1978) guidelines and application of

Bloom's revised taxonomy (Anderson et al., 2001) the following research questions were addressed:

- **Question 1: What was the historical nursing science education and healthcare context during the initial development and introduction of the nursing care plan?**

Since the introduction of the nursing care plan in the late 1920s, its use as an instruction tool for the education of nurses has remained constant. At the inception of this study, historical dissection of the use of instruction tools and student characteristics revealed the care plan could indeed be an indicator for changes that may or may not have occurred in nursing science education. Its use as an indicator was supported by Phase one's nursing museum artifacts, student-based historical records, nursing student interviews, and 80 years of documented use. Further, its' continued reference in nursing education literature with lack of monitored change across existence, the lack of critical thinking tools used in today's nursing education as suggested by NLNAC and AACN, and the researcher's personal experience of nursing care plan's continued use also contributed to its validity as an indicator. Together, these factors provided a sound justification.

Phase one historical narrative offered two historic interviews of nursing graduates from University of Maryland and records from the school's archives which support historic characteristics of nursing students during the era of case study introduction. Student characteristics are essential in describing the nursing education context as it was these student's dedication and ownership of their learning experience that contributed to the shaping of nursing education. For visual enhancement of the period's context, historic pictures of the usual students admitted to nursing school and pictures of the typical ward in which students were trained were also gleaned from phase one. Museum based artifact findings from Phase one further added rich

detail to explaining the context of nursing education and healthcare during the time of case study development and introduction to nursing education.

In 1889, a training program began for nurses to replace the nuns currently providing "nursing" care at Baltimore Hospital and generally speaking across the country. Set forth by nuns at the turn of the 20th century, the first group of women who took it as their responsibility to nurse sick individuals, future desirable characteristics of nurses were established. Obedience, good moral character, being single, and female were the most consistent requirements for students of nursing (University of MD SON, 1999, II). Records from University of Maryland nursing school further validated demographics of students admitted to the training school, as revealed in this display in the museum, "the training school attracted and accepted large numbers of young, white women from small towns and farms (University of MD SON, 1999, IIb15). Students admitted from small towns and farms tended to have more rural upbringings which did not include exposure to urban concepts of education. These women were open to a life changing experience of academics.

Because of the limited number of educated women in the United States, nursing students of this decade approached the ability to earn an education with loyalty and a feeling of being privileged (Chitty & Black, 2007). For example, in an historic interview of Ellen Israel, University of Maryland graduate 1910, revealed these feelings about completing nursing school, "We really strutted our stuff and were as proud as peacocks. Even now, I think we had a right to be, as we had all been 'thru the mill'" (Israel, 1971). Most nursing students were first generation women who achieve an education which changed the women and created in them a sense of accomplishment and pride in nursing. Not only were the women changed but also their intense dedication shaped the context of nursing education for the time. These dedicated students set the

precedence of what Geertshuis et al., (2002) suggested as the teacher and learner relationship, "the learner is responsible for the learning that occurs and the teacher helps the learner learn. Learning does not exist in a social vacuum occupied only by the trainer and a learner. Learning takes place within complex social systems populated by a multiplicity of factors all influencing learning and performance outcomes" (p. 168). Education was personal for these women and with that personal touch, a context where innovative learning tools could be introduced and well received was maturing.

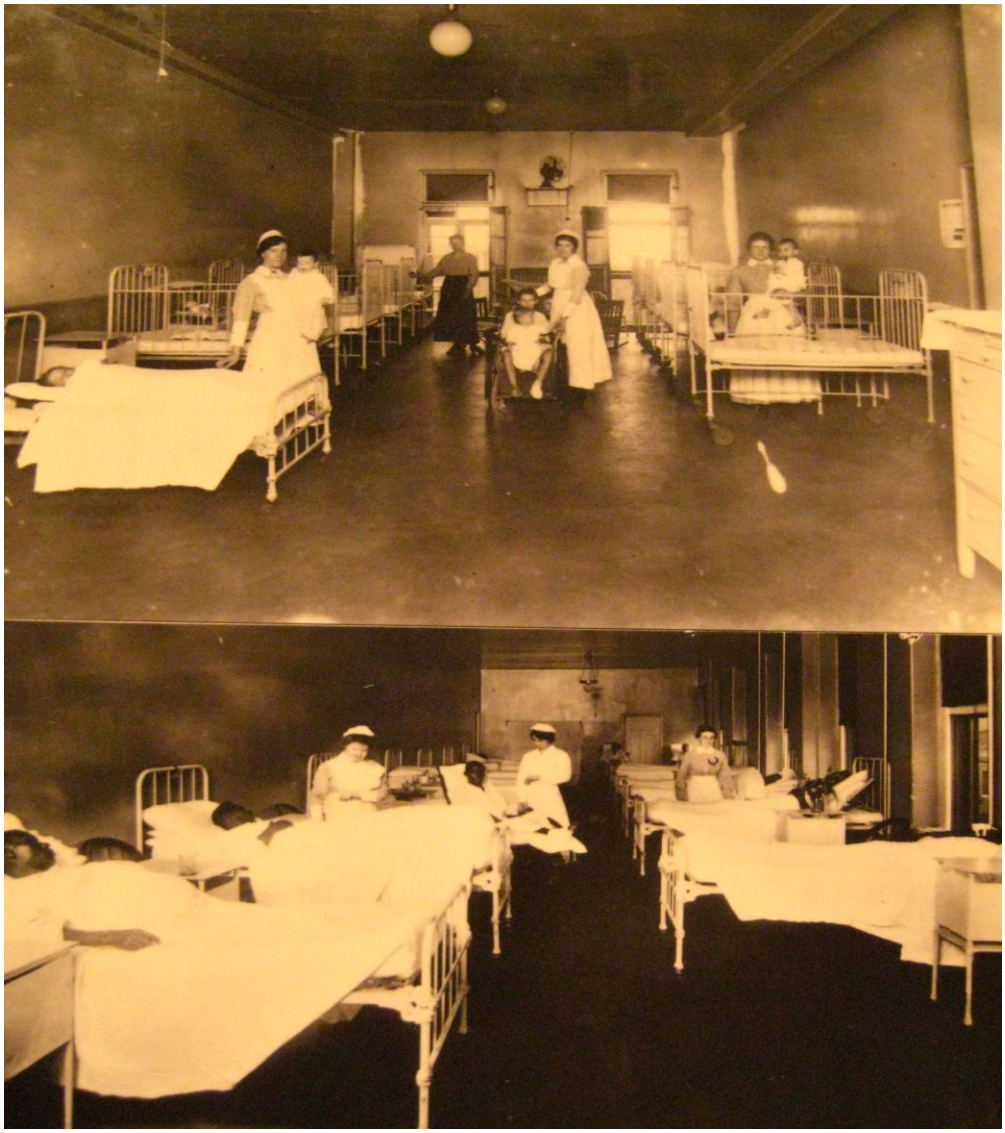
The students were dedicated to their learning process and to the profession well after graduation from nursing school. In an historic interview of an 1893 graduate from University of Maryland School of Nursing, Mary Cornman had this to say about nursing caps earned upon completion of nursing school, "A cap is a badge of service and when we consider all our cap means to us, we should want to wear it so that it will show, almost as a crown!" (Cornman, 1931). Photograph 4 represents a usual class of nursing students wearing the much lauded cap.

Daily school activities during the time period of nursing case studies' inception included students shadowing senior nursing students or physicians to learn skills. Typically, students were assigned one patient to provide nursing care from the time of the patient's admission to the patient' discharge (University of MD, 1999, IIB17). Continuity of care to the patient was the expected experience for both student and patient. In their daily encounters, ward experiences provided practical, hands-on experience with a mentor-like relationship between the student and head nurse. As head nurse, she oversaw the ward and was an extremely knowledgeable nurse.

Photograph 4. *A Student Cap*--circa early 1900s. Copyright 2006 by University of Maryland School of Nursing. Living History Museum (IIB16). Reprinted with permission.

All patients on the ward were ultimately the head nurse's responsibility and, therefore, were a tremendous source of information about patients and principles of nursing. In an historic interview of Ellen Israel, University of Maryland graduate in 1910, she mentions the relationship with head nurse as, "a great deal of teaching was done by the head nurse on the ward who was most likely a senior pupil nurse" (Israel, 1963). The term senior implied a person with a high degree of experience and knowledge. Having this resource person at their disposal created a learning environment that was nurturing and facilitated inquiry. Photograph 5 depicts the layout of a ward during this time period. From the position of beds in the photograph, the head nurse was able to have a continuous overview of patients and could intervene for teaching

opportunities with pupils. The mentor-like relationship spoken of between student and head nurse and the openness of wards provided a learning environment that Ruth-Sahd and Tisdell



Photograph 5. *A Modern Medical Facility*--circa early 1920. Copyright 2006 by University of Maryland School of Nursing. Living History Museum (IIB18). Reprinted with permission.

(2007) suggest allows the nurse educators to find ways to encourage a balance among intuition, science, and other ways of knowing by recognizing that what is taught in the classroom presents itself in practice and that the demands of practice determine what is necessary to include in the curriculum.

In the classroom, lectures were delivered to nursing students by the men of the Faculty of Physics, Elementary Anatomy, Physiology, Materia Medica, Chemistry, Antisepsis and Hygiene, as well as upon nursing in special practice (Parsons, 1890*).* Quoted in the University of Maryland Living History museum were comments nursing students made about taking verbatim notes during lecture which would later be memorized to ensure passing examinations (University of Maryland, 1999, IIB23). The doubling of classroom instruction brought about involvement of more nursing faculty, and more challenges of synthesizing theoretical information with clinical experiences. Using textbooks as references was more than commonplace for nursing instruction. Students became reliant upon the textbook to reiterate what was taught in lecture and clinical. Textbooks also served as a guide to students for developing and writing the new instruction tool of nursing care plans.

Indeed, textbooks as reference were fundamental to nursing. Complex conceptual topics were enhanced by textbooks which were used to explain and clarify principles brought out by patient interactions. For example, *The Principles and Practice of Nursing* was one traditional textbook passed down from student to student in the early 1920s and 1940s (University of MD SON, 1999, IIB22). This textbook underwent numerous publications. Some sources documented five publications, and others documented ten publications (University of MD SON, 1999, IIB23).

In 1920, the *Goldmark Report* was released and focused on: (a) clinical learning experiences of students, (b) hospital control of schools, (c) the desirability of establishing university schools of nursing, (d) lack of funds specifically for nursing education, and (e) lack of prepared teachers (Kalisch & Kalisch, 1995). In an additional report, a nationwide investigation of nursing education was conducted that focused on teaching methods being used in nursing schools (Chitty & Black, 2007). Interest in how students were instructed not only sparked interest at a national

level with vast reports but also on a grass roots level. Nursing school administrators across the country were interested in developing tools to aid students in the educative process. One nursing school administrator was Deborah Jensen.

Phase two historical analysis of Deborah Jensen's textbook depicted a person on the cutting edge of nursing education. Jensen, the accredited educator of the initial nursing case study was a nursing graduate in the early 1900s. Her dedication to nursing as a profession and the education of future nurses was exemplified in her passion for developing, testing, and introducing case studies as an instruction tool for nursing education. Interestingly, the stimulus for Jensen's passion was similar to the stimulus of passion for nurse educators today who research and value the way students are educated. Modern concerns for nurse educators mirror historic concerns as Jensen discussed in an article printed in 1929. She struggled with the growing complexity of modern hospitals which cultivated, in her opinion, an attitude students had of patients being mere numbers or occupants of many beds (Jensen, 1929b). Jensen observed, "students do not take time or perhaps do not know how to gather nursing information about patients when ward experience is based on the assignment of routine work, whilst class work remains detached lectures without practical application" (Jensen, 1929b, p. 851).

Jensen practiced in a time where the ward experience was changing and creating challenges for nursing education. Historic ward experience challenges propelled the idea of nursing case studies. According to Jensen, ward training, after the preliminary period, should be planned to give a progressively graded experience. Students should then be given the complete care of patients as soon as possible (Jensen, 1929b). In order to communicate and carry out progressive intellectual growth, a tool needed to be in place to carry out these aims. Jensen adapted the case study from other well founded professions of law, medicine, and engineering. She recognized

the commonalities of medicine and engineering to nursing, one major commonality being a rich science foundation.

Medicine and engineering had been using the case study method since at least the 1870s (Jensen, 1929a). For medicine, Dr. Richard Cabot believed the case study brought about the best practice in students where they were required to bring, "their own powers into play at close range, gathering their own data, making their own interpretations, and proposing courses of treatment" (Cabot, 1911, personal letter) Engineering education found similar responses from students as case studies were used to stimulate and encourage them to exercise their power of independent thinking and to increase their ability to cope with new situations in engineering practice (Spikes, 1919), Nursing, as seen by Jensen, could generate the same response for nursing students and close the gap between theoretical and practical knowledge.

The previously mentioned textbook, *The Principles and Practice of Nursing,* was first encountered by this researcher as an archive in the Living History Museum. It was also a textbook used in Phase two of historic nursing care plan examination. The textbook, which was an heirloom of sorts for nursing students who would pass it from one class to another, integrated several chapters specifically focusing on defining the nursing care plan, explaining its purpose, and providing step by step instructions on how to construct a case study (Harmer & Henderson, 1939). Using case studies in nursing education quickly gained footing and could be seen through observing other historical textbooks in addition to this frequently encountered one.

There was a consensus among historic textbooks for utilizing case studies in nurse education. Each historical textbook discussed nursing care plans and went further to reference one another. Interestingly, a universal, well thought out definition for the case study was lacking. Each textbook aimed to define the nursing care plan in its own unique way with a different emphasis.

For example, Jensen (1929a) emphasized applying and testing knowledge in her definition of the case study: "The case method is included in the ward study, in order that it may be an actual study of a patient cared for or observed over a period of time and provide an opportunity to apply and test the knowledge gained in a nursing situation." NLN (1937) noted the student and teacher relationship involved in care plan use: "The case method is a written study of the whole patient in which the student nurse under teacher guidance studies a patient." Lastly, Harmer and Henderson found that, "each person's case should be looked upon as a problem of how may the individual is helped to regain or maintain health or if no cure is found, how they may be comfortable." What is consistent among these definitions was the focus of a study on one patient and not several. In loosely defining the case study, the learner was left with an uncertainty about its purpose. Discussed in phase one was the way in which nursing education continually reflected professional nursing's identity struggles.

Mentioned extensively was the transition of nursing as a skill-based vocation to a professional, scientific profession. Nursing care was ambiguous because of the mix between tradition-bound practicing nurses who were skill-oriented and newer nurses and nursing students who were connecting skills with scientific principles. What and how nursing students were being educated and subsequently what and how nurses practiced using scientific knowledge and a humane approach to patient care was not being reflected by society's views. Further, not only was nursing education changing, but also healthcare was as well. More patients were receiving sick care in the hospital rather than the home. Opportunities for studies of patients increased which contributed to the call for case studies.

At a glance, nurse scholars venture to say nursing education needs to evolve from teaching in skill oriented ways and focus on the scientific foundation of nursing (Keating, 2006). Keating

(2006) purports historic nursing curricula utilized only lower orders of cognitive processes because nursing of its skill based history. Lower order cognitive processes yielded lower orders of knowledge which was all nursing practice required. Her hypothesis seems accurate as much of the early nursing school consisted of training students on skills such as sterilization processes, wound care, and bed making. To support Keating (2006), historic learning objectives during 1920s to 1940s did represent some lower order processes of understanding and remembering. Of the 46 objectives evaluated for this time period, 11% were aimed at remembering, and 30% were aimed at understanding. However, the learning objectives also suggested more according to the findings of this study.

Applying, analyzing, and creating were cognitive processes the nursing care plan initially set out to facilitate. Of the learning objectives for the time period of 1920 through 1940, 26% emphasized creating, 2% emphasized evaluating, 15% analyzing, and 15% application. Benjamin Bloom et al., (1956), the attributed expert of the taxonomy he developed, found in order for meaningful learning to occur a combination of all learning processes is necessary. Using all cognitive processes is important because it allows the student to possess relevant knowledge which is achieved by remembering and understanding, but then the student can use that knowledge to solve problems and to understand new concepts. This would be the transferring of knowledge to new problems and new learning situations which uses applying, analyzing, evaluating, and creating (Bloom et al., 1956).

What is important to keep in mind is the context of the late 1920s. Nightingale's (1860) *Notes on Nursing* was used as the primary curricular guide for most United States nursing schools. Her guide promoted nursing duties which were largely skill-based. Jensen's work in 1929 supported by the NLN and then published in a major nursing textbook, *The Principles and*

Practice of Nursing, was on target with less skill-focused education and more on concept-focused education. This new focus was evident through the encouragement of application and analysis.

Also of significance, nursing care plan development fostered a relationship between the science and what was mentioned in chapter two as the art of nursing. The art of nursing is involved in individualizing patient care which meant taking into account not only the medical history of the patient but also the patient's persona. A tool that combined science and art was a solid representation for what nursing and the education of nurses desired.

Context of the healthcare setting at this time was starkly different from today as the care plan was an extensive description of one person. Typically, nursing students were assigned one patient to provide care continually. With one patient, individual care is easier to develop, plan, and implement which is why there are many struggles with individual care today. In today's healthcare setting, students are generally assigned three patients and then revert to prescriptive interventions rather than using the well-designed process initially described by Jensen. Time constraints typically impeded the creative process involved in care planning.

Fonteyn (1991) believed many of the patient problems nurses now encounter in practice cannot be resolved by a standard set of interventions because of individual complexities of patients. The changing healthcare context which provides the critical ward experience has contributed to nursing education's issue of teaching in ways that promote critical thinking. The healthcare context, therefore, has influenced the usefulness of nursing care plans. Today's healthcare setting demands processing acute situations and multifaceted personal and medical issues on a dime. Essentially, today's healthcare setting needs the historical value of time, creativity, and individualizing care. Currently, less time is allowed for contemplating, analyzing,

and reflecting, although some of the learning objectives reflective of the 21st century address these higher order cognitive processes.

The ability to conceptualize the scientific basis for nursing care and overlay it with humane nursing practices is what Watson and Glaser (1964) essentially believed critical thinkers could manage. They described critical thinking as a composite of skill development, knowledge of the subject, and attitude of the nurse. While remembering and recalling facts is the primary level of learning for individuals who are not encouraged to seek new understanding at the higher levels of cognitive ability, the sole use of the lower level cognitive taxonomy is the least beneficial to gain knowledge relevant to nursing. Remembering and recalling only is an impediment to develop critical thinking and acquire the hands-on skills required in a practice profession (Keating, 2006). Yet, these processes are vital in the initial establishing of conceptual understandings and cognitive networks needed for critical thinking.

The initiation of written care plans is primarily an outgrowth of academics with roots in law, medicine, and engineering. Today, we can also contribute the care plan as an outgrowth of scientific academics in nursing, particularly Jensen's work in 1929. She was a reflective individual as she observed the use of case studies in other disciplines and imagined new ways for it to be used in nursing. Care plan development and writing during earlier time periods encouraged a combination of lower and higher order thinking which Bloom contributes to meaningful learning. Bloom's work along with the extensive discussions and involvement of accrediting bodies were not necessarily factors during the initial time period of care plan use which makes the care plan more innovative than once believed.

- **Question 2: How does the nursing care plan aim to teach students about nursing science**?

Nursing science has been referred to as an emerging science and as a basic *science* with various *nursing* schools of thought that constitute the substantive knowledge of the discipline (Barrett, 2002 & Polifroni & Welch, 1999). Regarded by many as an applied science, nursing is the practical application of theories emanating from several disciplines. A similar example of nursing would be the applied science of medicine. Medicine has its unique body of knowledge which utilizes concepts derived from biology, chemistry, pharmacology and others. As seen in Chapter two's discussion of nursing programs of study (Table 1), this foundation is similar to nursing. Nursing care plans attempt to bridge concepts from the pure sciences and concepts specific to nursing through the nursing process. Therefore, nursing care plans aim to teach students about nursing science by challenging the student to use the nursing process. The nursing process is essentially nursing's version of the scientific method.

Nursing care plans are the written format of the nursing process, seen in Figure 6.

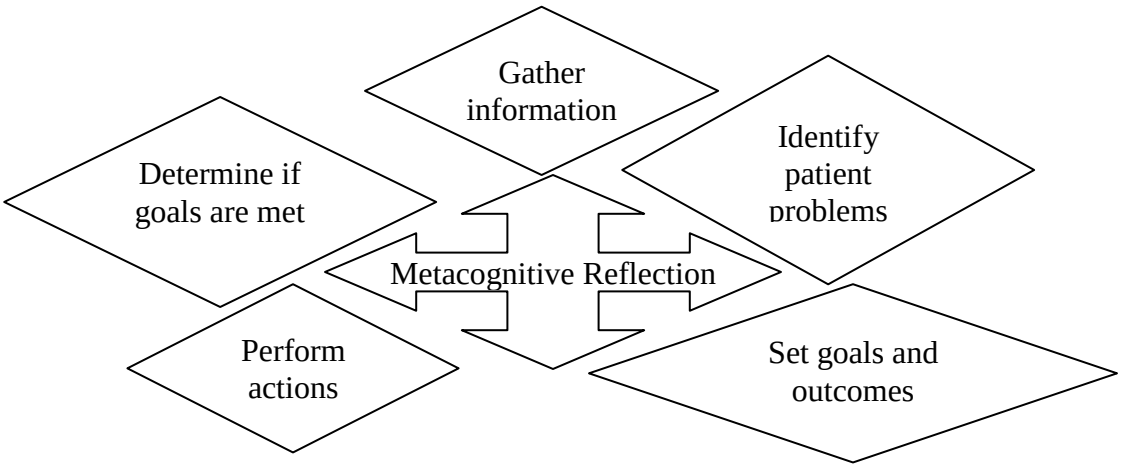


Figure 6. Five-step nursing process model. Modified by Bratton-Mullins.

Potter and Perry (2009) define the constituents of the nursing process as follows: (a) assessment is to gather information about the patient's condition; (b) a nursing diagnosis

identifies the patient's problems; (c) planning is setting goals of care and desired outcomes and identifying appropriate nursing actions; (d) implementation is performing the nursing actions identified in planning, and (e) evaluation is determining if goals have been met and outcomes achieved.

Assessment is discussed through each textbook and exemplified by such behaviors as, "through communication, the student identifies valuable patient data" and "Through observation, the student can recognize patient needs" (Jensen, 1929a). Communication, observation as well as extracting pertinent data from the clinical chart are all examples of assessment discussed in each textbook. Following the nursing process, once an assessment has been made and pertinent data extracted, a nursing diagnosis is formulated. Nursing diagnoses have become sophisticated in language over the years as seen when comparing a nursing diagnosis from Harmer and Henderson (1939), "intense pain in right chest increased by deep respirations" to Ackely and Ladwig's (2008) nursing diagnosis, "impaired spontaneous ventilation related to damage to alveolar capillary membranes." As different as the two diagnoses are worded, neither is more accurate than the other. Consistency of formulating this "diagnosis" based on assessment findings and used in care planning is a step of care planning which has remained unchanged over time. A seventy year gap exists between the printing of Harmer and Henderson (1939) and Ackley and Ladwig (2008), and it can be derived that thus far, the nursing care plan has continued to teach nursing science by thorough observation, communication, data extraction, etc., synthesis of data which was then formulated into an applicable diagnosis. The next step of planning was reviewed.

Planning is the cornerstone of formulating a nursing care plan. Building on the two previous nursing diagnoses from Harmer and Henderson (1939) and Ackley and Ladwig (2008), planning

resulted in the following for Harmer and Henderson's (1939) textbook, "patient will be most comfortable lying on right side that will splint the affected lung tissue" and "change to dorsal recumbent position every four hours to stimulate circulation." Again, they used basic language and the actions are very clear and concise. The nurse determined that she will lay the patient on his right side which splints the painful area and encourages position changes at set intervals. Planning these interventions would not have been possible if the student did not comprehend their collected data and formulated diagnosis. Care planning as seen to this point is a cumulative process. The student must gain some understanding of each step before proceeding to the next.

For Ackley and Ladwig's (2008) textbook, the following are examples of planning, "monitor respiratory rate, depth, and ease of respiration" and "note patter of respiration, if client is dyspneic, note what seems to cause the dyspnea, the way in which the client deals with the condition and how it resolves." Again, the advanced language is noted in the more modern textbook, but the care described is rather clear. Through monitoring breathing efforts and determining what could be contributing to a breathing abnormality, the student had first to understand a breathing problem was present based upon collected data. Then, a proper diagnosis had to be made, followed by planning interventions. The three steps of the nursing process, thus far, are tightly connected. The next obvious step in the process is implementing. When the student performs each planned intervention, this was considered implementing.

Lastly, the researcher observed that evaluating was discussed in most of the textbooks. Each action was reflected upon and patient response was evaluated. The student reflected on each action and evaluated patient responses. Based on findings, the student would modify the care. These ideas were first noted by the researcher when she extracted formulated meanings with Colaizzi's (1978) guidelines. An example of a formulated meaning from the textbook published

by the California Department of Public Health (1970) was this, "be able to determine what is applicable and what is not" and "reflection and evaluation of nursing action is necessary." Similarly, Potter and Perry (2009) emphasized evaluation through these formulated meanings, "nursing care plans are continuously evaluated and revised" and "nursing care plans should be evaluated based on the patient's status." On a more macroscopic level, formulated meanings for evaluation were frequent enough among each textbook that a theme was aggregated. Theme two, derived from Colaizzi's (1978) method, was, "the plan provides a tool for modification and therefore evaluation of patient behaviors." Remaining in harmony with one another, the historic and modern textbooks delineate care plan development in a similar fashion. The five steps discussed follow the nursing process which is a method that aims to teach nursing science.

Using data from the historical analysis of textbook and Colaizzi's (1978) method, it can be concluded that nursing science has been taught consistently over time through the nursing process. The term nursing process was not coined until the late 20th century. However, the concepts behind the nursing process have been consistent from Jensen's introduction to nursing case studies through today (Chitty & Black, 2007). Therefore, the nursing care plan has been the written form of the nursing process.

Since the nursing care plan's inception, an impetus has been placed on the student to first determine a problem or problems that the patient may be encountering. From the problem, the student was to develop a plan of care for the patient, perform the care interventions, then evaluate and modify the care accordingly. Determining patient problems occurs through the use of a litany of investigative skills such as observation, interviewing, and extracting pertinent data from the clinical chart. From historical analysis of the textbook, data was a far-ranging concept which included such things as the patient's medical, familial, social history as well as his or her

current medical situation and treatments. Once data was collected, the student took the information and mentally sorted through it to determine what information was of significance and pertinent to the patient's care.

As a five-step clinical decision-making approach that includes assessment, diagnosis, planning, implementation, and evaluation, the nursing process has the purpose of diagnosing and treating human responses to actual or potential health problems (American Nurses Association, 2003). Kataoka-Yahiro and Saylor (1994) claim the nursing processes' format is unique to the discipline of nursing and provides a common language and process for nurses to "think through" clients' clinical problems. But is this accurate? The nursing process and its five steps are similar to another five-step process that has been used in science education for centuries, which is the scientific method.

The scientific method has been historically documented as early as 1600 B.C.E. by Egyptians in Egyptian medical textbooks (Jevons, 1874). Today, the scientific method is widely known and according to Cowens (2006), the five steps of the scientific method are: (a) make an observation, (b) develop a hypothesis, (c) test hypothesis, (d) record observations, and (e) draw conclusions. Making an observation would coincide with assessment in the nursing process. Next, developing a hypothesis is similar to formulating a nursing diagnosis and planning care. Implementation would resonate with testing a hypothesis as the student executes the caring interventions planned. Evaluating, the last step of the nursing process would relate to recording observations and drawing conclusions. Humphris (1979) supports these correlations and believed it was apparent that the nursing process is a specific application of the scientific method. The nursing process is a scientific methodology applied to nursing management. As a

researcher involved in historical research, this finding was an unexpected historical link which has contributed to the answer of one of her vital research questions.

Another historical link, mentioned in question one, was with the nursing care plan. Interestingly, nursing care plans were derived from the use of case studies in other applied sciences. Case studies were cited as being used in medicine, law, and engineering for at least a century before their recreation as nursing case studies in 1929. It is unclear if these case studies followed the scientific method or some adapted version of the scientific method but the principle of intensely studying one situation in order to establish a foundation of knowledge for further application was evident.

The case study for nursing, as evidenced above, traced steps of the nursing process. Although the term "nursing process" was not coined at the time, using evidence from historical analysis, what was being followed in historic care plans was the nursing process. Case studies became nursing care plans which continued to be a written form of the nursing process.

This link between the case study turned care plan and the nursing process further linked to the scientific method partially answers that the nursing care plan aims to teach nursing science by orienting students to the scientific method. The scientific method teaches a way of inquiry and investigating. *Inquiry*, defined as asking, searching, and investigating is precisely what occurs throughout the nursing care plan process (Schwab, 1962). Perhaps nursing care plans teach a way of thinking scientifically rather than teaching specific science subject-matter. According to many great scientists, inquiry is the most vital attribute a scientist can have. For example, Albert Einstein believed imagining new ways the world could work beyond what is seen and expected is the most exciting aspect of science. Questioning the obvious is how Gregor Mendel

discovered discrete aspects of heredity. These two contributing scientists of the past discuss long hours of reflection, thinking, asking--inquiring.

Continuing with the concept of inquiry and answering how the nursing care plan aims to teach nursing science, National Research Council (NRC) report, *How People Learn: Brain, mind, experience, and school,* discussed current issues of scientific inquiry and how people learn which are applicable to evaluating nursing care plans. Three specific implications from the NRC (1998) literature are for instruction tools. The first principle is to address multiple levels of knowledge and perspectives of learner's or their *preexisting knowledge.* This knowledge is important to address as "learning a topic does not begin with a blank slate of knowledge and progress to learning based on entirely new information" (Donovan et al., 1999, p. 226). Most learning requires transforming existing understanding.

Nursing care plans do not elicit and address prior knowledge without guidance from the educator. Care plans do follow a cumulative process where the student, in order to create a sensible plan, has to first determine and understand a patient's problem. If the student does not initially establish this understanding, then formulating a nursing diagnosis is futile. While this is not the prior knowledge the NRC (1998) report details, it certainly could be seen as building knowledge. Essentially, an instruction tool is merely a tool whose potential is partly attributed to the educator and student. In a learning experience anchored by an instruction tool, educator and student should have active participation to carry out its' learning objectives.

Next, instruction should encourage students to experience the *processes of inquiry* so they may develop a *deep foundation of factual knowledge*. Processes of inquiry are key elements of the culture of nursing science and practice. Again, *inquiry* was defined as asking, searching and investigating (Schwab, 1962). Donovan et al. (1999) suggest, historically, inquiry was dry and

mechanical and has been practiced as following strict procedures to obtain a result. According to historical analysis of textbook, this was not the case for nursing science. When care plans were introduced to nursing in 1929, the process of care planning was new and innovative. Teaching the nursing process through care planning can be seen as teaching a certain disposition of learning. Certainly with an attitude for learning, a student could learn and enjoy the process of inquiry which is inherent in care planning. Without inquiring, an individual would be unable to develop the foundation of knowledge in which they would build upon indefinitely. Again, the importance of students and educators in the learning experience is seen.

Lastly, *metacognition,* defined as "knowledge of one's own learning capacities" (Donovan et al., 1999, p. 223), is crucial in linking complex concepts. As students reflect metacognitively on their own thinking and participation in scientific inquiry, they can begin to predict their performances on various tasks fostering a sense of control over learning (Donovan et al., 1999, p. 12). Ideally, through ownership of learning, students can gain esteem and drive for lifelong learning. Whether nursing care plans teach nursing science by the use of metacogntion relies heavily on the educator's value of allowing time to reflect on their care planning process and the student's willingness to take time to reflect. Through the evaluation step, particularly, there is an inherent call to reflect on planned interventions and patient's responses. In a broad sense, yes, the nursing care plan does encourage metacogntion, but the determining factor would be if allowing time for metacognition is valued by teacher and student.

To answer partially question two, results were used from historical analysis of textbook, Colaizzi's (1978) method results of themes and theme clusters, and narrative from the exhaustive description of phenomena. These results were further supported by findings of the NRC's (1998) report on how people learn. What these data results suggest is that the nursing care plan

aims to teach students about nursing science by teaching them to think like a scientist. Thinking in a scientific way is accomplished by using the scientific method in a nursing paradigm. The written product is the nursing care plan. However, regardless of the well-designed nature of a nursing care plan, a responsibility to carry out the learning experience is still placed on the teacher and learner.

Discussing what physically occurs in the brain fulfills a full answer to two. The first aspect was answered by paralleling the nursing process to the scientific method. Nursing care plans, written form of the nursing process, was then discussed in conjunction with the NRC's report on how people learn. The neuroscience of what occurs during the care planning process is adapted from literature by James Zull (2002) and David Kolb (1984). According to Zull (2002), there are "things" that underlie in the brain which support teaching efforts. Instruction tools that work with these "things "create new knowledge and support existing knowledge (Zull, 2002). These things are the foundation of learning and Zull (2002) overlays a basic structure of the brain with David Kolb's (1984) cycle of learning.

The brain has a physical structure which supports learning and when used as it was anatomically designed to function, the brain fires neuronal networks more efficiently. Briefly, the back cortex of the brain is responsible for receiving stimuli from the outside environment. Stimuli are considered to be anything received through the senses. External stimuli are termed concrete experiences. Some of these tangible experiences in relation to the development and writing of nursing care plans would be: (a) observing and interviewing the patient, (b) performing nursing interventions, and (c) visualizing patient responses to the intervention. According to Kolb (1984), the brain naturally follows a cycle around to the temporal or integrative cortex, an area of the brain responsible for integrating the sensory information with

images. Generally, imagination, free thought and daydreaming are associated with this area of the brain. One could say metacogntion is also related to this area. For the nursing care plan, integration would occur with a student's thoughts and visualizations about patients in terms of data gathered and nursing care planned. This step in terms of the nursing process would be evaluating.

Following this integration, the brain cycles information to the front cortex. Hypotheses development and abstraction occur in the front cortex, and these ideas cycle to the motor/post motor aspect of the brain for active testing. Signals are sent to the body from this area of the brain for movement. As this process occurs neuronal networks within the brain are being created as new knowledge, strengthened as repeating existing knowledge, or changed as addressing misconceptions. Accordingly, this is the progression that occurs when carrying out the process of care planning as it was designed to be used.

Building on existing neuronal networks or existing knowledge is another fundamental key to sound instruction tools. Existing knowledge is physical, persistent and very emotional for the student (Fischer & Rose, 2001). As an educator, accessing pre-existing knowledge is a beneficial part of teaching as some pre-existing knowledge may be a misconception. Because pre-existing knowledge is physical and very personal, it cannot be separated from the student. For a learning experience to have value, a student's knowledge must be incorporated into the new learning experience if it is accurate or addressed before progression can occur. Working with students' current knowledge bases is a role for the educator and cannot be carried out by a tool alone.

Nursing care plans as instruction tools have a sound foundation with the nursing process, but without contributions from the educator and student, a meaningful learning experience cannot

occur. In education, things should happen concurrently such as lecture followed by clinical encounters and simultaneous care plan development. Concurrent teaching causes neurons to fire together, thereby, ingraining new knowledge more deeply. Nursing care plans cannot accomplish all of these things as a lone instruction tool. What is clear is that the actions of the educator when implementing care plans and the actions of students when using care plans create an experience of learning. A tool will only teach what it aims to teach if the educator and student are contributing to the experience.

- **Question 3: What are some explicit cognitive processes elicited by the nursing care plan and does the encouraged use of these processes meet demands of accrediting bodies for nurse graduates?**

David Kolb (1984) and James Zull (2002) explain the physical neurologic acts of cognition. Cognition includes the cognitive processes of remembering, understanding, applying, analyzing, evaluating, and creating. These cognitive processes constitute Bloom's revised taxonomy which is an organizing framework of a special nature (Anderson et al., 2001). In Bloom's revised taxonomy, categories of cognitive processes lie along a continuum. The continuum is one of the major organizing principles of the framework. This researcher used Bloom's revised taxonomy to classify objectives.

Through the use of all cognitive processes, students can actively engage in the process of constructing meaning. Constructing meaning about scientific principles of nursing is facilitated by educators when using the concepts of the nursing process which in turn is written as a nursing care plan by students. Bloom et al.'s (1956) research about meaningful learning is consistent with the view of learning as knowledge construction. When meaningful learning occurs, students become armed with the knowledge that they need for successful problem solving. In constructing knowledge, students seek to make sense of their experiences. Students' active role

in learning is essential to constructivist learning as Mayer (2002) suggests that engagement in active cognitive processing, mentally organizing incoming information into a sensible representation, and mentally integrating incoming information with existing knowledge is constructivist learning.

Historical learning objectives classified by their aim using Bloom's revised taxonomy were the most valuable data used in answering which explicit cognitive processes the nursing care plan elicits in teaching nursing science. Anderson and Sosniak (1994) believe instruction and assessment commonly emphasize one kind of cognitive processing which is remembering. Their thought is that schooling should be expanded to include a broader range of cognitive processes. If educators were mainly interested in teaching and assessing the degree to which students learned and retained some subject-matter over a period of time, then remembering would be the primary focus of learning objectives. If educators wish to expand the focus of learning to foster and assess meaningful learning, processes beyond remembering must be used when implementing an instruction tool.

In Chapter two, the researcher discussed retention and transfer as learning concepts. According to Anderson et al., (2001) and Keating (2006), two of the most important educational goals are to promote retention and to promote transfer. Retention and transfer indicate a student has experienced meaningful learning. Mayer and Wittrock (1996) defined *retention* as the ability to remember information in a different time and context than which it was taught. Students *transfer* knowledge when they use this newly retained information at a different time and/or different context to solve or answer new problems, or use newly retained information to facilitate learning additional new subject matter (Mayer & Wittrock, 1996). The cognitive process most closely related to retention is *remembering* which is retrieving relevant knowledge from long-

term memory (Anderson et al., 2001). Understanding, applying, analyzing, evaluating, and creating are cognitive processes associated with transfer.

Remembering is retrieving relevant knowledge from long-term memory (Keating, 2006). When the intent of instruction is to promote retention, which is also considered rote memorization, the assessment of students' ability to retrieve material is in the same form as it was taught. Remembering is essential to the development of meaningful learning at the application level and of more complex processes for problem solving. If educators promote rote memorization only, teaching and assessing then focuses on remembering facts or remembering fragments of knowledge in a narrow contextual view. According to Bowers and McCarthy (1993) and Brookfield (1993), in the past, overuse of remembering as a teaching aim became a barrier that neglected the use of higher levels of cognitive processing and inhibited the development of critical thinking in nursing students. Keating (2006) and Anderson et al., (2001) have also found that historical instruction merely focused on rote memorization as nursing was a skill-based vocation. Contrary to these scholars beliefs, nursing care plans encouraged the use of a variety of cognitive processes as exampled above in Chart 1, Table 6, and Chart 2.

U*nderstanding* occurs when the student constructs meaning from instructional messages (Bloom et al., 1956). Keating (2006) and Detterman and Sternberg (1993) believe when transfer is a goal of instruction, understanding is the first and most comprehensive level of the cognitive processes encountered. They further add that student understanding occurs when links between the most recent information acquired and previously learned information are formed into schemas and cognitive frameworks (Detterman & Sternberg, 1993; Keating, 2006). An example of student understanding that could occur from developing nursing care plans occurs when students note abnormal physical examination findings using underlying pathophysiology as a

manifestation of the difference from expected findings. This understanding of pathophysiology was also called for when examining laboratory values and understanding the role of disease upon a community. To engage in understanding, the manner in which information is asked or approached must be new, or the cognitive process engaged in would be of a lower order cognitive process, remembering. To ensure that the student task of understanding is more than remembering, students have to use new cognitive connections rather than rely on memory.

To carry out or use a procedure in a given situation is *applying*. Bloom et al., (1956) identifies a situation as a task for which the student already knows the proper procedure to use, so the student has developed a fairly routinized approach to it. A situation could also be a task for which the student initially does not know what procedure to use, so the student must locate a procedure to solve the problem. In the unfamiliar situation, students must determine what knowledge they will use. Implementing nursing interventions according to a patient's condition is applying and calls for the student to be in both familiar and unfamiliar situations.

Becoming competent in nursing skills is a concern for most nursing students. Venipuncture, Foley catherization, medication administration, and tracheostomy care are examples of procedural skills that students must understand then apply at the appropriate time with proficiency to be competent as a nurse graduate. To develop an appropriate nursing care plan, the student has to first understand when skills are necessary, and then apply the skills in the correct patient situation.

Analyzing involves breaking material into its constituent parts and determining how the parts are related to one another and to an overall structure (Anderson et al., 2001). Of importance, analyzing is an extension of understanding and a prelude to evaluating and creating rather than an end in and of itself (Keating, 2006). Historically, teachers of Science have given learning

objectives with the aim of "learning to analyze" what teachers hope students will develop is the ability to distinguish relevant from extraneous data, determine how ideas, such as disease processes, are related to one another, and find evidence in support of their purposes.

From data analysis of textbooks, developing and writing meaningful nursing care plans involves extensive analysis. As seen in Figure 3, analysis lies at the center of the nursing process and lies at the center of the nursing care plan. During care planning, students continually experience Michael and Modell's (2003) referenced input and output states. Students are "inputting" data from interviewing, examining, and observing, then mentally sifting through the data, and then "outputting" pertinent decisions about patient care. The nursing process steps of assessment, forming a nursing diagnosis, planning care, implementing the care, and evaluating care all hinge upon analysis of data. Nursing actions do not signal the end of analysis because modifications based on analyzing patient's responses to actions are continually made.

Evaluating is making judgments based on criteria and standards. Without the use of standards of performance with clearly defined criteria, the judgments are meaningless (Anderson et al., 2001). The researcher classified five of 82 learning objectives as evaluating. While five is not a significant number, the authors discussed use of care plans as a tool for evaluation significantly throughout historical textbooks. Nursing care plans were used for evaluation in two ways. One was the student's use for personal evaluation of nursing interventions they had created, and second was the educator's use to evaluate the student's understanding of nursing care. Although significant statements in the textbook were not written in a way that was read by the researcher as a learning objective, evaluation was a valued aspect of nursing care plans.

The historical textbooks' authors used the term evaluation similarly to Michael and Modell (2003) who stress the importance of the previously mentioned input, output, and evaluation.

Input can be what the student takes into their mind. It could also be the modality an educator uses to communicate new knowledge. *Output* is how the student synthesizes the input and then produces an action or thought based on synthesis. The evaluation helps the student understand where he or she is in their learning process which indicates how the educator should proceed with teaching. With the advent of government mandated achievements and external accreditation committees, Michael and Modell (2003) label evaluation negatively. When educators use nursing care plans as a constructive form of feedback and personalize feedback for each student, the nursing care plan represents knowledge development for all. First, on a student level for self-evaluation, then on an educator's level for evaluation of student's learning needs and finally, for accrediting bodies to indicate practices that are indeed in place for encouraging critical thinking.

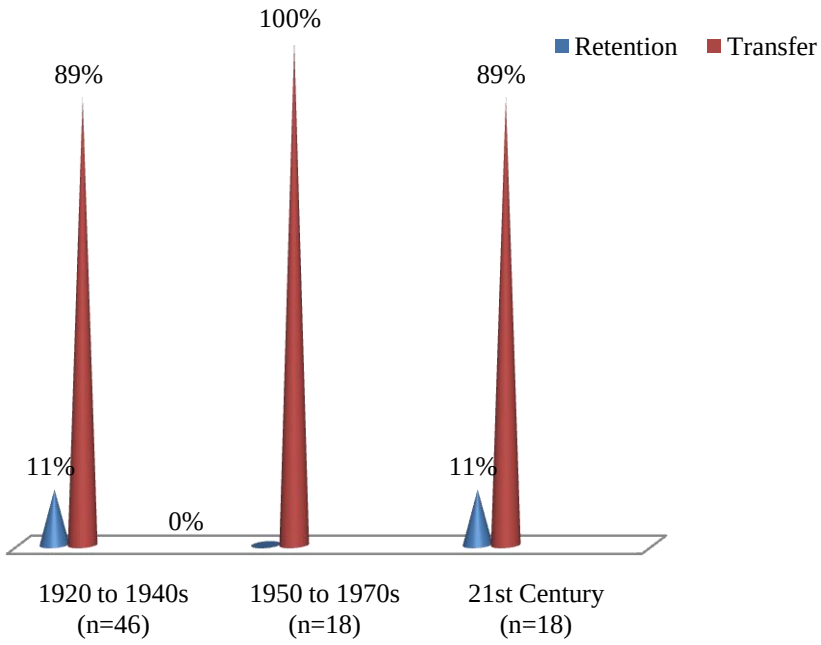
Creating, at the highest cognitive level of Bloom's revised taxonomy (Anderson et al., 2001), is putting all elements together to form a coherent or functional whole. The way in which Bloom's revised taxonomy used creating as reflected in learning objectives suggest the student produce something unique but also attainable. What this means is that creativity is involved with creating, but objectives must be specific enough that all students understand the goal and can work to attain the goal. Creating is generally coordinated with the students' previous learning experiences. Nursing care plans as instructional tools could be viewed as writing-to-learn exercises with the end product being a student's original work of new knowledge and prior knowledge combined. Bringing prior knowledge and new knowledge together occurs when students document ideas through writing and according to Anderson et al., (2001) this experience serves as a stimulus for critical thinking by immersing the student in the subject- matter available from the literature. Seeking not only cognitive utilization of that knowledge but also the

affective absorption of values and beliefs, the researcher once again emphasizes the role of the student as well as the educator in the experience of developing and writing care plans.

Chart 3 represents each significant time period. Here learning objectives were divided into the two categories of retention and transfer. Objectives that aimed to elicit remembering were tallied and converted to a percent of the total number of objectives. These are represented by retention. Objectives that aimed to elicit understanding, applying, analyzing, evaluating, and creating were tallied and converted to a percent of the total number of objectives, these are represented by transfer.

Chart 3

Percent of Objectives by Retention and Transfer and Time Period



Evaluating was not found to be elicited by objectives in the 21st century textbooks, and remembering was not found to be elicited by objectives in the 1950s to 1970s textbooks. According to the learning objective assessment in the 21st century, nursing care plans elicit

remembering, understanding, applying, analyzing, and creating. Evaluating was a process discussed indirectly in relation to developing and writing care plans but was not directly addressed in the learning objectives. Of these 18 learning objectives, 11% aimed to elicit remembering, and 89% aimed to elicit the cognitive processes associated with transfer.

While specific learning objectives for evaluation were not elicited from the 21st century textbooks, the researcher concluded that a culmination of objectives aimed to elicit retention and transfer. Lack of evaluating aimed objectives can be accounted for with data from theme two of Colaizzi's (1978) method and the above discussion of the use of the term in a similar use as Michael and Modell's (2003) literature on input, output, and evaluation. Theme two focused on the plan which provides a tool for modification and, therefore, evaluation of patient behaviors. This theme is evidence that the textbooks significantly addressed evaluation. Discussions about evaluation were frequent enough that the significant statements and formulated meanings formed theme two; then intuiting formed theme cluster four. Theme cluster four was the process of creating the care plan.

Of the 22 learning objectives for the 1950s to 1970s, two objectives were aimed for understanding, five objectives aimed for applying, three objectives aimed for analyzing, four objectives for evaluating, and four objectives aimed for creating. These learning objectives as a collective group represent transfer. In the 1950s and 1970s, where remembering learning objectives were absent from the two textbooks analyzed, the researcher considered the focus of the two textbooks. Kron (1966) and the California Department of Public Health (1970) were written for the nurse graduate. The authors possibly wrote their textbooks with the assumption that remembering information such as pathophysiology concepts occurred in nursing school. Without learning objectives for remembering, the authors were not aiming to teach or assess the

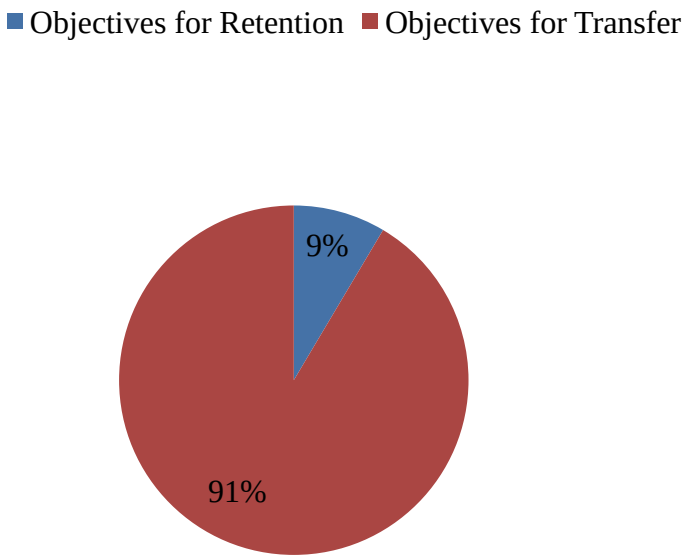
degree to which the nurse graduate learned some subject-matter and retained it over some period of time which is the definition of remembering. For Kron (1966) and the California Department of Public Health's (1970) textbooks to be valued by graduates as a reference for developing nursing care plans and to have the ability to encourage graduates in transferring knowledge, the authors most likely assumed retention of nursing concepts occurred during their nursing education. As suggested by the hierarchy of Bloom's revised taxonomy, remembering must occur first before other cognitive processes can successfully occur because through remembering, a factual foundation of nursing knowledge is built.

Based on retention and transfer literature and the two concepts' associated cognitive processes, the researcher concluded from her study results that the nursing care plan is a tool for meaningful learning. The researcher supported this concept because of the 76 learning objectives analyzed, in which seven aimed to elicit remembering which is associated with retention, and 75 aimed to elicit understanding, applying, analyzing, evaluating, and creating, see Chart 4.

According to Potter and Perry (2009), critical thinking is necessary to integrate information from the scientific and nursing knowledge bases. In the AACN's (2008) guidelines for schools of nursing, critical thinking is one of the most essential qualities deemed necessary for graduates to master. Through critical thinking, students apply prerequisite and nursing knowledge to clinical decision making. Of course, these decisions determine life or death in most situations which is why critical thinking has been the focus of accrediting bodies. Since the process of critical thinking is often equated to problem solving and decision making, Keating (2006) suggests

Chart 4

Percent of Objectives for Retention and Transfer



learning objectives that elicit evaluating and creating lead to the development of critical thinking. Creating was certainly addressed in the 21st century learning objectives, and while evaluating was not, as mentioned previously, it was widely discussed in the textbooks. Anderson et al., (2001) and Anderson and Sosniak (1994) both suggest that in order for students to remember what they have learned, which is retention, and then make sense of and be able to use what they have learned, which is transfer, they must engage in processes that go beyond remembering. They encourage the use of instruction tools which elicit all cognitive processes to foster meaningful learning.

Limitations

One limitation of this study is that it reflects the experiences of a small number of historical textbooks and current textbooks. Thus, the results are descriptive of a limited sample in a

particular context and, therefore, not widely generalizable. However, the focus of historical and qualitative research is the detailed exploration and description of the history and nature of phenomenon. Essentially, historical and qualitative methods allow for depth-versus-breadth of understanding. The findings of this study present a faithful rendering of the range of textbook descriptions of the phenomenon of developing and writing nursing care plans.

A second limitation of the findings results from the focus on learning objectives only. Objectives do not encompass all possible and important student learning outcomes in part because it focuses exclusively on cognitive outcomes. Yet, the study is merely to help educators clarify and communicate what they intend for students to learn as a result of instruction. This, as discussed, is an interactive process that involves the student's willingness and educator's direction. Further, to evaluate the nursing care plan as an indicator for change, some measurable entity had to be deemed the focus of investigation.

Also, this study did not take into account the student's perspective of developing and writing nursing care plans. As a previous student, nursing care plans were a dreaded assignment. However, now being an educator, the researcher can appreciate the aims of the instructional tool and the dedication that the initial founders had in making it well-known and usable. Additionally, it must be recognized that this interpretation of the data represents the perspective of a single investigator. Although the researcher did elicit a colleague to re-read themes and theme clusters to gain inter-rater consensus, this might be perceived as a limitation of the study.

CONCLUSIONS AND IMPLICATIONS

Transfer of knowledge from one context to another occurs more readily for students who have used tools that elicit a range of cognitive processes (Keating, 2006). Nursing and the related health science professions substantiate the need for this transfer to take place more than any other profession. The ability to take care of ward patients with unique medical and psychosocial issues requires an individual who can apply their nursing knowledge quickly and in a multitude of context. This quick transfer and retrieval of knowledge is challenging when students are assigned to several patients rather than one patient and are assigned to more complex patients rather than uncomplicated patients. A clinical assignment that includes caring for several patients who have stable conditions or caring for patients who quickly go from stable to unstable in their health status does not create a positive learning experience. Where there is high nurse to patient ratios and patients having more complex needs, hospitals need to change nursing care plans which reflect students' interactions with patient care.

From historical data, the researcher concluded that the nursing care plan has gone from an in-depth study of one patient to a less intense study of several patients. Even with this transition from one to many, the researcher concluded the nursing care plan to be a valuable instruction tool because of the following historically-based conclusions: (a) case studies have been used across many science-based disciplines such as medicine, engineering, and nursing with positive student outcomes; (b) care plans can be used by educators in a way that follows NRC's principles and implications for science educators; (c) care plans can be used to elicit a spectrum of lower and higher order cognitive processes and have done so for the past 80 years; and (d) care plans have a foundation in the nursing process which mimics the scientific method.

When one understands the practicing nurses' responsibilities of caring for an increasing number of patients with more complications, one then understands why accrediting bodies such as the AACN and NLNAC have emphasized critical thinking as a must for nurse graduates. With this study, the researcher intended to gain an historic perspective of nurse educators' teaching modalities and evaluate one of the most historic and consistent instruction tools, the nursing care plan. This intent was also a result of her experiences as a practicing nurse, nurse practitioner, and nurse educator. In these roles, this researcher has attempted to teach nurses, patients, and students with a variety of instruction tools in the hope that the learning experience could be meaningful. Even though the researcher has attempted to use a variety of instruction tools, students have expressed frustration about understanding complex nursing concepts. Since learning is the desired outcome by both educator and student, should meaningful learning always occur?

For some time, nurse educators have relied on use of the formal written nursing care plan to teach student nurses how to reason and conceptualize a plan of care for their patients. Tanner (1986) questioned whether nurse educators' devotion to nursing care plans is based on reason or ritual. Tanner's study was inconclusive as she discovered some educators use care plans because of the reasonable way it carries students through the nursing process. On the contrary, some educators use nursing care plans because they are familiar with the learning tool's structure but not necessarily with its learning objectives. This researcher concluded educators have continued using the nursing care plan because they sense it has real value as a comprehensive instruction tool but are not always clear about its implementation. Educators' assumptions about the tool's value and validity are supported by the conclusions of this research study.

This back-story of nursing students, nursing education, and nursing care plans and evaluation of nursing care plans' learning objectives from its inception in 1929 to present can help educators clarify the tool's aims when using it in the clinical setting. The findings of this research can also help students become clearer about what they should learn from care planning. Using the history of nursing care plans, the researcher found that nursing schools should not dispose of nursing care plans. Care plans are justifiable tools to elicit lower and higher order cognitive processes needed to facilitate critical thinking.

As mentioned, what was further concluded from this study is that the nursing plan was an instructional tool which pushed students to think critically in a time where critical thinking was not a catch phrase thrown about by accreditors. Current nursing literature is scant at best and really has left the care plan unevaluated. This historical evaluation of the care plan as an indicator of change in nursing science instruction revealed that the actual nursing care plan has not changed in its definition, components, process, and learning objectives. What has changed is the way it has been implemented by educators and perceived by students. Both student characteristics and the healthcare context have changed which has been reflected in nursing education, and in turn, the value of an in-depth study of one patient has been lost. Revisiting the nursing care plan's roots revealed the instructional tool was adapted from relevant science professions of medicine and engineering and was based on the scientific method. Jensen (1929a) introduced the nursing case study with thorough explanation of its purpose to engage students in scholarly inquiry which, in turn, created a rich learning experience. As an in-depth scientific study of one patient, students could individualize their learning and students could individualize patient care. Individualizing care through critical thinking makes for safe nursing practice and a

link has been shown between developing and writing nursing care plans to the evolution of critical thinking in nursing students.

Students demonstrate critical thinking when they engage in the cognitive processes and establish the knowledge needed to give in-depth patient care. Through critical thinking, students, who are ultimately nurses, practice knowledgeably. Nursing has a rich heritage and has an even more important role in the future. Nursing education can progress more rapidly toward graduating students who will be competent if past gains are built upon. And nurse historians, such as this researcher, have a responsibility for interpreting the present in light of the past.

• Nursing care plans have emphasized higher order thinking processes for over 80 years (cf., pp. 161-166, 191-198).
• Nursing care plans are supported by learning theories and an established history in medicine and engineering (cf., pp. 174-175, 180, 185-190, 197-198).
• The nursing process mimics the scientific method which is reflected in the nursing care plan (cf., pp. 180-186).
• Nursing care plans have been expanded from one concentrated patient study to three with a subsequent loss of student focus (cf., pp. 176-178).
• Care plans open a new window for science education research on the state of nursing instruction (cf., pp. 190-191, 198).
• There is a disconnect between care plan instructional goals and their application in real-world nursing (cf., pp. 174-175, 189-190).

Figure 7. Warrants for conclusions.

Implications for Educators

Over the past 80 years, nursing care plans have aimed to elicit higher order cognitive processes that are associated with critical thinking strategies. If learning objectives reflect higher order cognitive processes that facilitate critical thinking, and it is known that these learning objectives are present in nursing schools and nursing textbooks, then where does the gap of educator, student, and critical thinking lie? Perhaps in communication. Deborah Jensen described devoting time to provide feedback to students on their completed case studies.

Michael and Modell (2002) described this feedback which should occur after the educator has clearly communicated educational goals, referred to as "input", and the student has processed the goals and created learning, referred to as "output." According to the historical research, feedback generally occurred in roundtable discussions after completing a day on the ward. Today, this researcher suggests educators do the following in using care plans as instruction tools: (a) create learning objectives that elicit all cognitive processes, (b) adequately communicate objectives and encourage feedback, (c) thoughtfully evaluate case studies based on the individual student's personality, and (d) bring the roundtable discussion back to the clinical day.

An educator has the responsibility to be clear about the learning objectives of nursing care plans. If objectives are unclear, Anderson et al. (2001) believe it has a negative impact on students because the students then focus on performing the activity correctly rather than learning concepts from the tool. When objectives are clear and the student is responsive to learning, students can thoughtfully and purposefully apply pertinent patient data to current nursing science research and engage in meaningful learning.

Using nursing care plans as an in-depth study of one patient rather than a brief study of several patients would be a challenge for most educators today. Educators are pressured by employers to quickly progress students from caring for one patient to caring for several patients. The idea is that this quick progression can allow the student to adapt more quickly to their assigned patient load as a new practicing nurse. To balance demands of employers and learning needs of students, the nursing care plan could be used with first year students as an in-depth study of one patient and then progress to more patients once a foundation of nursing knowledge

has been established. The key point of a slower progression is that it would give students time to establish a foundation of nursing knowledge which is imperative to their future learning.

Implications for Millennials

Fortunately for Millennials, men, women and minorities have always had equal opportunities. They also entered adulthood during the second Bush presidency and most of their years have been in a time of economic uncertainty, foreign war, and growing concerns about global warming. Because they were a "children-should-be-seen-and-heard" generation, as youngsters, Millennials likely questioned things and received fairly open responses. Subsequently, they expect honesty and candor from all. In their daily lives, activities are rigidly scheduled into each spare moment and because of technology, Millennials are also in constant communication with one another, whether with a Blackberry®, I-phone® or the Internet. Fast technology has planted a desire of wanting results and answers instantly. Hence, the times of slowly, thoughtfully and painstakingly thinking through processes is all but over in the classroom. The Millennial looks for direct solutions, and does not want to hear about answers that will take long hours of contemplation to come to fruition.

A possible practice implication, in light of the included review of the published research literature's findings on the Millennial generation's characteristics, when coupled with this study's findings are: use of technology, use of group work, and use of variety. One can see the differences of historical nursing students and millennial students, both demographically and socially. However, the two groups are not different cognitively. What has not changed over time is how the brain physiologically operates and how learning occurs. Adapting nursing care plans to these millennial student characteristics would not require changing learning objectives or changing the process of care planning as these were proven through this research to be

effective (Carver & Candela, 2008; McCoog, 2008; Nikirk, 2009; Orrell, 2007; Pardue & Morgan, 2008; Rosentreter & Talboy, 2003).

Technology

Millennials have grown up in an electronic environment and they may not recall a time without personal computers, cable television, the Internet, cell phones, and instant messaging. A significant portion of their time is spent online (Half, 2008; Zemke, Filipczak, & Raines, 2000). Although these young adults live in both a virtual world and a "human" world, they need to communicate in both worlds. Instruction that incorporates internet or computer based activities yielding quick results has been shown to fulfill the technological need of the students. Electronic data sensors and internet based modules are highly prevalent and are being used with frequency in the science classroom. Other suggestions for instruction include providing information on flash drives and using Webinars for question and answer. Findings of a study on Electronic-Learning (E-Learning) in medical education by Ruiz et al. (2007) suggested e-learning will become the bench-mark for valid and successful learning throughout medical education. Podcasts and blogs are other technologically savvy ways to close the gap between student and educator. Stillman et al. (1999) advocated the use of technology, "as it seems an ideal medium whereby nurses as a profession can access programs to enable them to maintain safety and competence in practice" (p. 24).

Group Learning

Whether the pack consists of parents, siblings, or peers, Millennials thrive in groups. Capitalizing on the pack mentality with group projects will be well received with this generation. In particular, using interactive sessions with teams and groups ideally composed of racially diverse men and women would be very comfortable for today's student (Pardue & Morgan,

2008; Zemke, Filipczak, & Raines, 2000). Group discussion of care plans would benefit millennial students because they could share and clarify knowledge of the content. Orrell (2007) suggests group learning promotes remembering for millennial students because they associate groups with positive feelings. Group discussions are beneficial particularly when the exchange of ideas requires consensus of the group. This promotes affective valuing by raising consciousness about the importance of the material being covered (Keating, 2006).

Variety

Millennials were reared with a high level of stimulation through television, video games, the Internet, and a myriad of extracurricular activities. As a result, they will become disengaged from learning quickly if they are not challenged. Instruction tools that stretch Millennials' skills will allow them to develop multiple competencies such as: (a) critical thinking, (b) delegation, (c) team work, and (d) nursing skills. To make learning more attractive, the concept map and Vee diagram could add visual stimulation and remove the prescriptive nature of some instruction tools. Both of these "twists" have been applied to care plans in this educator's practice. Students have used their own creative ways to connect patients with diagnoses, medicines, and interventions through these visual aids. Therefore, being less prescriptive with the structure of nursing care plans is a way to bridge care planning and millennial students.

Recommendations for Future Research

While the current study provided a rich historical context of nursing students, nursing education, and nursing care plan evolution and learning objectives, there are many facets of this topic left to explore. Recommendations for future research include two main areas: educators' perceptions of nursing care plan learning objectives and educating millennial nursing students.

History as Teacher

Lewenson and Herrmann (2008) believe history is a wise teacher and therefore affects our modern life. Yet, in nursing, since few nurse historians exist, nursing history becomes lost which affects nursing practice and nursing educations' outcomes. To involve history in the present, this researcher would use the findings of this study. First, the researcher would assess expert and novice educators' perceptions of nursing care plans. The historical findings of this study would then be used to inform nurse educators of the nursing care plan's adaptation from medicine and engineering, its history in nursing, and its foundation in the scientific method.

Once the educators became familiar with these aspects, the researcher would reassess experienced and novice educators' perceptions of nursing care plans to determine if understanding the history changed their perception. If so, the researcher would determine if the changed perception affected how the educators implemented the tool. If the historical context positively changed how educators implemented the tool, the researcher could determine if history is the teacher and hopefully share her findings on a larger scale.

By using experienced and novice educators as the sample population, the researcher could draw conclusions about different generations' value of history and determine populations where historical teaching would be most effective. The researcher is interested in generational differences as exampled by her discussion of millennial implications.

Millennial Adaptations

Nursing research has not evaluated instructional methods for the new nursing demographic, also known as the millennial student. Orrell (2007) and Robert Half (2008) suggested millennial students struggle relating to instruction that is not technologically driven. Nurse graduates complete their education and become employed in a profession with responsibilities that are

often life-threatening. These serious responsibilities present a challenge for nurse education as educators are fearful to try new and creative teaching tools as they may not be effective and, in turn, have negative impacts on students' competencies (Geershutis et al., 2002). A study of millennial nursing students and the use of podcasts in place of face-to face-lecture and blogs for group discussion would be beneficial to test more creative and modern ways of delivering lecture and promoting peer discussion.

To build on this research, the researcher would evaluate educators and Millennials' understanding of nursing care plan learning objectives. An investigation into their perceptions of the objectives of writing and developing nursing care plans would add insight to communication of instructional tools' purposes. Student perspectives are as imperative as educators. As learned in this study; the learning experience is a relationship between educator and student. Further studies for these purposes could be planned serving to provide a better understanding and appreciation for nursing's most historic instructional tool.

Summary

This dissertation supports the use of nursing care plans by historically narrating the context of nursing education, nursing student characteristics, and the subsequent evolution of nursing care plans. By detailing its history, one learns that nursing care plans elicit a spectrum of cognitive processes as determined by evaluation of extracted learning objectives from historical textbook with Bloom's revised taxonomy. Care plans are also supported because they are and have been used in other longstanding science professions such as medicine and engineering. The scientific method is carried out as the nursing process in the nursing care plan. When implemented by the educator and utilized by the student as was intended by Jensen (1929a), the students glean meaningful learning which fosters critical thinking.

Nursing care plans have been used more often and for a longer period of time than any other instruction tool in nursing science education. It would behoove nursing education to continue research on nursing care plans that will improve its implementation and utilization. The future research needs to include educators and students' perspectives as it is the willing contribution of both parties that create the learning experience.

REFERENCES

Abel, W. & Freeze, M. (2006). Evaluation of concept mapping in an associate degree nursing program. *Journal of Nursing Education, 45*(9), 356-364.

Ackley, B. & Ladwig, G. (2008). *Nursing diagnosis handbook: An evidence-based guide to planning care*. St.Louis: Elsevier.

All, A. & Havens, R. (1997). Cognitive/concept mapping: A teaching strategy for nursing. *Journal of Advanced Nursing, 25*, 1210-1219.

American Academy of Colleges of Nursing (2005). *Nursing education's agenda for the 21st century*. Retrieved from http://www.aacn.nche.edu/Publications/positions/nrsgedag.htm

American Academy of Colleges of Nursing (2008). *The essentials of baccalaureate education for professional nursing practice.* Retrieved from http://www.aacn.nche.edu/Education/pdf/BaccEssentials08.pdf

American Association for the History of Nursing (2007). *Archives, history centers, and museums.* Retrieved from http://www.aahn.org/resources/centers.html

American Nurses Association (2003). *Nursing's social policy statement* (2nd ed.). Silver Spring, MD: ANA.

Anderson, L., Krathwohl, D., Airisan, D., Cruickshank, K., Mayer, R., Pintrich, P., et al. (Eds.). (2001). *A taxonomy for learning, teaching, assessing: A revision of Bloom's taxonomy of educational objectives*. San Francisco: Addison Wesley Longman, Inc.

Anderson, L., & Sosniak, L. (1994). *Bloom's taxonomy: A forty-year retrospective*. Ninety-third yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press.

Association of American Colleges and Universities (2007). *College learning for the new global century*. Washington, DC.

Barrett, E. (2002). What is nursing science? *Nursing Science Quarterly, 15*(1), 51-60.

Barzun, J. & Graf, H. (1985). *The modern researcher* (4th ed.). Fort Worth: Harcourt, Brace, Jovanovich College Publishers.

Baxter, G., Elder, A., & Glaser, R. (1996). Knowledge-based cognition and performance assessment in the science classroom. *Educational Psychologist, 31*, 133-140.

Beard, M. (1936). Creative nursing. *The American Journal of Nursing, 36*(1), 69-78.

Benner, P. (1984). *From novice to expert*. Menlo Park, CA: Addison-Wesley.

Bevis, E. & Watson, J. (2000). *Toward a caring curriculum: A new pedagogy for nursing.* Boston: Jones and Bartlett.

Birnbach, N., Brown, J., & Hiestand, W. (1991). *Ethical guidelines for the nurse historian and standards of professional conduct for historical inquiry into nursing*. Paper Presentation.

Birkenmaier, J., Behrman, G., & Berg-Weger, M. (2005). Integrating curriculum and practice with students and their field supervisors: Reflections on spirituality and the aging (ROSA) model. *Educational Gerontology, 31*, 745-63.

Black, P., Green, N., Chapin, B., & Owens, C. (2000). Concept mapping: An alternative teaching strategy. *Pelican News, 56*(4), 6-10.

Bloom, B., Engelhart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: Handbook I: Cognitive domain*. New York: David McKay.

Bloom, B. (1964). Reflections on the development and use of the taxonomy. In L.W. Anderson & L.A. Sosniak (Eds.). *Bloom's taxonomy: A forty-year retrospective.* Chicago: University of Chicago Press.

Bowers, B., & McCarthy, D. (1993). Developing analytic thinking skills in early undergraduate education. *Journal of Nursing Education, 32*(3), 107-114.

Brookfield, S. (1993). On impostership, cultural suicide, and other dangers: How nurses learn critical thinking. *Journal of Continuing Education, 24*(5), 197-205.

Brown, E. (1948). *Nursing for the future.* New York: Russell Sage Foundation.

Brennan, J. (1992). *Developing and writing nursing care plans: The lived experience of Baccalaureate nursing students* (Unpublished doctoral dissertation.). Widener University, Chester, PA.

Brown, J., D'Antonio, P., & Davis, S. (1991). *Report on the fourth invitational nursing history conference*. Unpublished manuscript.

Brunstetter, M. (1945). Films for nursing education. *The American Journal of Nursing, 45*(4), 298-301.

Cabot, R. (1911, February 17). Personal letter to James Jackson Putnam. [Personal letter]. James Jackson Putnam Papers, (C4.2). Harvard Medical School Archives.

California Department of Public Health (1970). *Guidelines for nursing care plans.* Berkley, CA: California Department of Public Health.

Campbell, D. (2009). *American authors*. Retrieved from http://www.wsu.edu/~campbelld/amlit/whitman

Carnegie Foundation for the Advancement of Teaching. (In press). *Precis of chapters from educating nurses: Teaching and learning for a complex practice of care.* Retrieved from http://www.carnegiefoundation.org/

Carper, B. (1978). Fundamental patterns of knowing in nursing. *American Nurses Society,* 13-23.

Carver, L. & Candela, L. (2008). Attaining organizational commitment across different generations of nurses. *Journal of Nursing Management, 16*(8), 984-91.

Chitty, K. & Black, B. (2007). *Professional nursing: Concepts and challenges* (5th ed.). St. Louis: Elsevier.

Christie, T. (1969). Portraits in nursing: Isabel Hampton Robb. *Nursing Outlook, 17,* 27.

Ciuca, R. (1972). Over the years with the nursing care plan. *Nursing Outlook, 20,* 706-711.

Clark, M. & Caffarella, R. (1999). *An update on adult development theory: New directions for adult and continuing education (No. 84*). San Francisco: Jossey-Bass.

Colaizzi, P. (1978). Psychological research as the phenomenologist views it. In R. Valle & M. King (Eds.), *Existential phenomenological alternative for psychology* (p. 48-71). New York: Oxford University Press.

Collins, M. (2005). *Rural students look to e-learning for advanced courses*. Retrieved from http://library.blackboard.com/docs/media/BB_ScrippsHoward_July192005.pdf

Cornman, M. (1931). Interview by E. C. Israel [Tape recording]. Cap History. Living History Museum, Baltimore, MD.

Cowens, J. (2006). The scientific method. *Teaching Prekindergarten through Eighth Grade, 37*(1).

Cramer, S. (1992). The nature of history: Meditations on Clio's Craft. *Nursing Research, 41*(4), 4-7.

Daley, L., Spalla, T., Arndt, M., & Warnes, A. (2008). Videoconferencing and web-based conferencing to enhance learning communities. *Journal of Nursing Education, 47*(2), 78-81.

Detterman, D. & Sternberg, R. (1993). *Transfer on trial: Intelligence, cognition, and instruction.* Norwood, NJ: ABLEX.

Di Vito-Thomas, P. (2005). Nursing student stories on learning how to think like a nurse. *Nurse Educator*, 30(3), 133-136.

Donovan, M., Bransford, J., & Pellegrino, J. (Eds.). (1999). *How people learn: Bridging research and practice*. Washington, D.C.: National Academies Press.

Drew, N. (1989). The interviewer's experience as data in phenomenological research. *Western Journal of Nursing Research, 11*(4), 431-439.

Duldt-Battey, B. (1997). *Critical thinking across the curriculum project: Coaching winners: How to teach critical thinking*. Retrieved from http://mcckc.edu/longview/ctac/winners.htm

Einstein, A. (1995). *Ideas and opinions*. New York: Random House.

Facione, P. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction.* The Delphi report: research findings and recommendations prepared for the American Philosophical Association, ERIC Doc No. ED 315-423. Washington, D.C.

Fischer, K. & Rose, T. (2001). Webs of skill: how students learn. *Educational Leadership*, 59, 6-12.

Fonteyn, M. (1991). Implications of clinical reasoning studies for critical care nursing. *Focus on Critical Care 18*(4), 322-327.

Fox, D. (2007). *Developing/testing a new approach for assessing rapid visual identification of hematological cells using principles of visual cognition: A health science education study* (Doctoral dissertation). Retrieved from http://etd.lsu.edu/docs/available/etd-07032007-104652/unrestricted/Fox_dis.pdf

Frerichs, M. (1970). Generalizations in nursing education. *The Journal of Nursing Education*, 35-38.

Frothingam, A. (1917). *Handbook of war facts and peace problems*. New York: Committee on Organized Education, National Security League.

Geertshuis, S., Holmes, M., Thomas, A., Sandercock, L., Krayer, A., Iphofen, R., Allsup, D., and Godwin, M. (2002). Laptops and learning: Evaluating advances in nurse education. *Innovations in Education and Teaching International, 39*(3), 165-170.

Geocites (2009). *The story of men in American nursing*. Retrieved from http://www.geocities.com/Athens/Forum/6011/sld023.htm

Georgetown University (2008). *Bachelor of science nursing program of study*. Retrieved from http://nhs.georgetown.edu/documents/nursing.pdf

Gibson, S. (2009). Enhancing intergenerational communication in the classroom: recommendations for successful teacher-student relationships. *Nursing Education Perspectives, 30*(1), 37-39.

Gipe, F. (1947). *Bulletin of the Nurses' Alumnae Association* (IIC). Living History Museum, University of Maryland School of Nursing, Baltimore, MD.

Gowin, D. & Alvarez, M. (2005). *The art of educating with Vee diagrams*. Cambridge, UK: Cambridge University Press.

Graebner, N. (1982). History, society, and the right to privacy. In *The scholar's right to know versus the individual's right to privacy*. Proceedings of the first Rockefeller Archive Center Conference, December 5, 1975 (pp. 20-24). Pocantico Hills, NY: Rockefeller Archive Center Publication

Half, R. (2008). *What millennial workers want: how to attract and retain Gen Y employees.* Menlo Park, CA: Robert Half International.

Harmer, B. & Henderson, V. (1939). *The principles and practice of nursing* (4th ed.). New York: MacMillan.

Hermann, M. (2004). Linking liberal and professional learning in nursing education. *Liberal Education, 90*(4), 42-47.

Hewell, M. (1954). *Teaching others with Muriel Hewell/Interviewer: Unknown*. Living History Museum (IIC13). University of Maryland, Baltimore, MD.

Hofstadter, R. (1959). History and the social sciences. In F. Stern (Ed.). *The varieties of history* (pp.359-370). New York: Meridan.

Howell, M. & Prevenier, A. (2001). *From reliable sources: An introduction to historical methods.* Ithaca: Cornell University Press.

Huitt, W. (2009). *Bloom et al.'s taxonomy of the cognitive domain.* Educational Psychology Interactive. Valdosta GA: Baldosta State University. Retrieved March 3, 2010 from http://www.edpsycinteractive.org/topics/cogsys/bloom.html.

Humphris, B. (1979). The nursing process: An application of scientific method. *Annals of Nursing, 9*(4), 30-31.

Israel, E. (1963). *An oral history with Ellen Israel/Interviewer: Betty R. Hipp*. Living History Museum (IIB8), University of Maryland School of Nursing, Baltimore, MD.

Israel, E. (1971). Correspondence. Ellen Israel Papers (IVA5-6), Living History Museum, University of Maryland School of Nursing, Baltimore, MD.

Jensen, D. (1929a). *Student's handbook on nursing case studies*. New York: MacMillan Co.

Jensen, D. (1929b). Case study in schools of nursing. *American Journal of Nursing, 29*(7), 851-856.

Jevons, W. (1874). *The Principles of Science.* Reprinted by Dover in 1958

Johannessen, B. (2006). Holism and post-war nursing education in Norway. *Norsk Tidsskrift For Sykepleieforskning, 8*(4), 10-21.

Joyce, B. & Weil, M. (1996). *Models of teaching* (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Kataoka-Yahiro, M. & Saylor, C. (1994). A critical thinking model for nursing judgment. *Journal of Nursing Education, 33*(8), 351-356.

Kalisch, P. & Kalisch, B. (1995). *The advance of American nursing (3rd* ed.). Boston: Little Brown.

Keating, S. (2006). *Curriculum development and evaluation in nursing*. Philadelphia: Lippincott, Williams, & Wilkins.

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development*. Eaglewood Cliffs, NJ: Prentice Hall.

Krishnan, A. (2008). *History of development of nursing profession in India*. Retrieved from http://www.scribd.com/doc/17656067/History-of-Development-of-Nursing-Profession-in-India

Kron, T. (1966). *Nursing team leadership*. Philadelphia: W.B. Saunders.

Lambertson, E. (1964). Nursing care plan should reflect present and future patient needs. *Modern Hospital, 103*(4), 128.

Lawley, J. (2008). *The "helicopter parents" hovering over their children*. Retrieved from http://www.21learn.org/archive/articles/lawley_helicopter.php

Leki, I. (2003). Living through college literacy: Nursing in a second language. *Written Communication, 20*(1), 81-98.

Lewenson, S. & Herrmann, E. (Eds.). (2008). *Capturing nursing history: A guide to historical methods in research.* New York: Springer Publishing Company, LLC.

Little, D. & Carnevali, D. (1969). *Nursing care planning*. Oxford, England: J.B. Lippincott Co.

Lucas, J. (2002). *History of men in nursing*. Retrieved from http://www.malenursemagazine.com/history.html

Lusk, B. (1997). Historical methodology for nursing research. *Image, 29*(4), 355-359.

Lynaugh, J. & Reverby, S. (1987). Thoughts on the nature of history. *Nursing Research, 36*(1), 4-69.

Lyon, E. (1932). Some aspects of my nursing education. *The American Journal of Nursing, 32*(1), 76-80.

Mallon, M. (1965). *Ward duty and homework with Martha Mallon/ Interviewer*: *Unknown*. Living History Museum (IIB10a), University of Maryland School of Nursing, Baltimore, MD.

McCoog, I. (2008). *21st century teaching and learning*. Retrieved from http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_

McDowell, W. (2002). *Historical research: A guide*. London: Longman.

McNeill, W. (1976). *Plagues and peoples*. Garden City, NY: Anchor Press.

Mayer, R. & Wittrock, M. (1996). Problem-solving transfer. In D.C. Berliner & R.C. Calfee (Eds.), *Handbook of educational psychology* (pp. 47-62). New York: MacMillan.

Mayer, R. (2002). Rote versus meaningful learning. *Theory in Practice, 41*(4), 226-232.

Merriam, S. (2009). *Qualitative research: A guide to design implementation*. San Francisco: Jossey-Bass.

Merriam-Websters Collegiate Dictionary (2009). Retrieved from http://www.merriam-webster.com/dictionary/nurse

Michael, J. & Modell, H. (2003). *Active learning in secondary and college science classrooms: A working model for helping the learner to learn*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc. Publishers.

Mintzes, J., Wandersee, J., & Novak, J. (1997). *Teaching science for understanding: A human constructivist view.* San Diego: Academic Press.

Monti, E., Wren, K., Haas, R., & Lupien, A. (1998). The use of an anesthesia simulator in graduate and undergraduate education. *CRNA: The clinical forum for nurse anesthetists, 9*(2), 59-66.

National League for Nursing Education (1937). *A curriculum guide for schools of nursing*. New York: NLN.

National League for Nursing Accrediting Commission (1993). *A vision for nursing education.* Retrieved from http://www.nln.org/aboutnln/vision.htm

National League for Nursing Accrediting Commission. (2002). *Accreditation manual and interpretive guidelines by program type.* Retrieved from http://www.nlnac.org/manual%20&201G/2003edition/guidelines_general.pdf

National Research Council (1998). *How people learn: Brain, mind, experience and school*. Washington, DC: National Academy Press.

Nehring, W., Ellis, W., & Lashley, F. (2001). Human patient simulators in nursing education: An overview. *Simulation Gaming, 32*, 294-204.

Nelms, T. (1990). The lived experience of nursing education: A phenomenological study. In M. Leininger & J. Watson (Eds.). *The caring imperative in education* (pp.285-297). New York: National League for Nursing.

Nightingale, F. (1860). *Notes on nursing: What it is, and what it is not.* New York: D. Appleton and Company.

Nikirk, M. (2009). Today's millennial generation: A look ahead to the future they create. *Techniques, May Issue,* 20-23.

Novak, J. (1977). *A theory of education*. Ithaca, NY: Cornell University Press.

Novak, J. & Gowin, D. (1984). *Learning how to learn*. Cambridge, UK: Cambridge University Press.

Novak, J. (1998). *Learning, creating, and using knowledge: Concept maps as facilitative tools in schools and corporations*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc. Publishers.

Nurses Alumni Association. (1953, March 3). *Minutes of the executive committee of the nurses' alumnae association.* Living History Museum (IID27-31). University of Maryland, Baltimore, MD.

O'Neil, E. (1993). *Health professions education for the future: Schools in service to the nation*. San Francisco: Pew Health Professions Commission.

Oiler, C. (1982). The phenomenological approach in nursing research. *Nursing Research, 31*, 178-181.

Orrell, L. (2007). *Millennials Incorporated: The big business of recruiting, managing and retaining the World's new generation of young professionals*. USA: Intelligent Women Publishing.

Our Lady of the Lake College School of Nursing (2009). *Program curriculum plan*. Retrieved from http://www.ololcollege-edu.org/content/admissionacademicprograms-rn-bsn-program-program-curriculum-plan

Overbaugh, R. (2008). *Bloom's taxonomy.* Retrieved from http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm

Pardue, K. & Morgan, P. (2008). Millennials considered: A new generation, new approaches, and implications for nursing education. *Nursing Education Perspectives, 29*(2), 74-79.

Parsons, L. (1890). *84th annual circular of the school of medicine for session 1890-1891*. (IIB-14). Living History Museum, University of Maryland School of Nursing, Baltimore, MD.

Pascopella, A. (2005). *Technology gets more detailed and more engaging for students*. Retrieved from http://library.blackboard.com/docs/media/BB_District_Administration_July142005.pdf

Patton, M. (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage.

Pensivy, B. (1977). Traditional versus individualized nursing instruction: Comparison of state board examination scores as a result of these two methods of nursing instruction. *Journal of Nursing Education, 16*(2), 14-18.

Pew Health Professions Commission (1998). *Recreating health professional practice for a new century: The fourth report of the Pew Health Professions Commission*. San Francisco: Author.

[Photograph of *The Medicine Dropper* and *The Pledge*]. (ca 1964). Living History Museum (IIC16-18,19), University of Maryland School Nursing, Baltimore, MD.

[Photograph of *Nursing Uniform*]. (ca. 1905). Living History Museum (IIA1-2), University of Maryland School of Nursing, Baltimore, MD.

[Photograph of *University Lecture Room*]. (ca. 1910). Living History Museum (IIB2-6), University of Maryland School of Nursing, Baltimore, MD.

[Photograph of *Student Cap*]. (ca. early 1900s). Living History Museum (IIB16), University of Maryland School of Nursing, Baltimore, MD.

[Photograph of *A Modern Medical Facility*]. (ca. 1920). Living History Museum (IIB16), University of Maryland School of Nursing, Baltimore, MD.

Piaget, J. (1929). *The child's conception of the world*. London: Paladin.

Polifroni, C. & Welch, M. (1999). *Perspectives on philosophy of science in nursing: An historical and contemporary anthology*. Philadelphia: Lippincott.

Polkinghorne, D. (1989). Phenomenological research methods. In R.S. Valle & S. Halling (Eds.). *Existential-phenomenological perspectives in psychology* (pp. 41-60). New York: Plenum Press.

Porter, E. (1989). The qualitative-quantitative dualism. *Image: Journal of Nursing Scholarship*, 21: 98-102.

Porter, W. (1858). *A history of the knights of Malta or the order of the hospital of St. John of Jerusalem.* Retrieved from http://www.archive.org/details/ahistoryknights07portgoog

Potter, P. & Perry, A. (2009). *Fundamentals of nursing* (7th ed.). St. Louis: Mosby.

Preusser, B. (2009). *Critical thinking cases in nursing* (4th ed.). Salt Lake City: Mosby.

Ramsamy, B., Seevalingum, S. & University of Sheffield Department of Mental Health and Learning Disability (2001). *Caring for madness: The role of personal experience in the training of mental health nurses.* Philadelphia: Whurr Publishers.

Robert Half International & Yahoo!Hotjobs (2007). *Generation Y: What millennial workers want and how to attract and retain Gen Y employees*. Retrieved from http://www.rhi.com/GenY

Robinson, A. (1993). *What smart students know: Maximum grades, optimum learning, minimum time.* NYC, NY: Three Rivers Press.

Robinson, T., & Perry, P. (2001). *Cadet nurse stories: The call for and response of women during World War II.* Indianapolis: Sigma Theta Tau International Center Nursing Press.

Rodgers, S. (2007). The history and social context of nursing. In K. Chitty & B. Black Editor (Eds.), *Professional nursing: Concepts and challenges* (5th ed.). (pp. 29-68). St.Louis: Elsevier

Roget's Thesaurus (2010). Retrieved from http://thesaurus.com/Roget-Alpha-Index.html

Rosenthal, R. (1982). Who will be responsible for private papers of private people? Some considerations from the view of the private depository. In *The scholar's right to know versus the individual's right to privacy* (pp. 3-6). Pocantico Hills, NY: Rockefeller Archive Center Publication.

Ruiz, J., Teasdale, T., Hajjar, I., Shaughnessy, M., & Mintzer, M. (2007). The consortium of e-learning in geriatrics instruction. *Journal of the American Geriatric Society, 55*, 458-463.

Ruth-Sahd, L. & Tisdell, E. (2007). The meaning and use of intuition in novice nurses: A phenomenological study. *Adult Education Quarterly, 57*(2), 115-140.

Schwab, J. (1962). The teaching of science as inquiry. In P.F. Brandwein (Ed.), *The teaching of science* (pp. 1-103). Cambridge, MA: Harvard University Press.

Servonsky, E., Daniels, W., & Davis, B. (2005). Evaluation of blackboard as a platform for distance education delivery. *The ABNF Journal, Nov/Dec*, 132-135.

Settersten, L. & Lauver, D. (2004). Critical thinking, perceived health status, and participation in health behaviors. *Nursing Research, 53*(1), 11-18.

Sharif, F & Masoumi, S. (2005). A qualitative study of nursing student experiences of clinical practice. *BMC Nursing, 4*(6), 1-7.

Sochalski, J. (2002). Nursing shortage redux: Turning the corner on an enduring problem. *Health Affairs, 21*(5), 157-164.

Speziale, H. & Carpenter, D. (2007). *Qualitative research in nursing: Advancing the humanistic imperative* (4th ed.). Philadelphia: Lippincott, Williams, & Wilkins.

Spiegelberg, H. (1975). *Doing phenomenology: Essays on and in phenomenology*. The Hague: Martinus Nijhoff.

Spikes, W. (1919). *The foundations of engineering*. Hodder & Stoughton.

Stewart, J, Dannefeldt, G, Stewart, K., Fester, V., & McHaffie, J. (2009). *Linking assessment to learning for authentic practice: Rethinking assessment for the science modules in a first year nursing programme*. Retrieved from http://researcharchive.wintec.ac.nz/228/

Streubert, H. (1989). A description of clinical experience by nurse educators and students. *Dissertation Abstracts International, 49*.

Swanson-Kaufmann, K. (1986). A combined qualitative methodology for nursing research. *Advances in Nursing Science, 8*(3), 58-69.

Tanner, C. (1986). The nursing care plan as a teaching method: Reason or ritual? *Nurse Educator, 11*(4), 8-10.

Tholfsen, T. (1977). The ambiguous virtues of the study of history. *Teachers College Record, 79*(2), 245-247.

U.S. Department of Commerce, Historical Statistics of the United States (1977). Bureau of Census: House Document No. 93-78, Part I.

University of Maryland (1924). Circular of Information [Brochure]. Living History Museum, Baltimore, MD.

University of Maryland (1950). Circular of Information [Brochure]. Living History Museum, Baltimore, MD.

University of Maryland (1971). Circular of Information [Brochure]. Living History Museum, Baltimore, MD.

University of Maryland (1982). *The Pledge*. Baltimore: University of MD.

University of Maryland (1999). *The Pledge*. Baltimore: University of MD.

University of Maryland School of Nursing (1991). *Nursing informatics graduate specialization* [Brochure]. Baltimore, MD: Living History Museum (IIC49), University of Maryland, Baltimore, MD.

University of Maryland School of Nursing. (1999, July 30). Final exhibition script. [Notations under each archived item]. Living history museum (I-IVF16). Living History Museum, Baltimore, MD.

University of Maryland School of Nursing (1997). *Strategic plan for the year 2002*. Living History Museum: Baltimore, MD.

University of San Francisco School of Nursing (2009). *Curriculum pattern for school of nursing*. Retrieved from http://web.usfca.edu/nursing/bsn/

Wandersee, J., Mintzes, J., & Novak, J. (1994). Research on alternative conceptions in science. In D.L. Gabel (Ed.). *Handbook of research on science teaching and learning* (pp. 177-210). New York: Macmillan Publishing.

Watson, G. & Glaser, E. (1964). *Critical thinking appraisal*. Orlando: Harcourt, Brace, and Jovanovich.

Watson, J. (1985). *Nursing: The philosophy and science of caring*. Niwot, CO: The University Press of Colorado.

Weeks-Shaw, C. (1910). *A textbook-book of nursing*. New York: D. Appleton Co.

Wellman, H. (1990). *The child's theory of mind*. Cambridge, MA: MIT Press.

Wilgis, M. & McConnell, J. (2008). Concept mapping: An educational strategy to improve graduate nurses' critical thinking skills during a hospital orientation program. *The Journal of Continuing Education in Nursing, 39*(3), 119-126.

Wilson, E.O. (1994). *The Naturalist*. Washington, D.C: Island Press.

Zemke, R., Filipczak, B., & Raines, C. (2000). *Generations at work: Managing the clash of veterans, boomers, Xers and nexters in your workplace*. New York: Amacom/ American Management Association.

Zion, M., Cohen, S., & Amir, R. (2007). The spectrum of dynamic inquiry teaching practices. *Research in Science Education, 37* (4), 423-447.

Zull, J. (2002). *The art of changing the brain*. Sterling, VA: Stylus Publishing.

APPENDIX A

SIGNIFICANT STATEMENTS AND FORMULATED MEANINGS

Jensen, D. (1929). *Student's handbook on nursing case studies*. The MacMillanCompany: New York.	
Significant Statement	Formulated Meaning
1. In schools where the case study method has been used successfully, student nurses have been more interested in observing their patients and in comparing, analyzing and interpreting the facts about them.	1. Instill interest of the individual patient on the ward experience which will improve nursing care given to each patient.
2. The greatest hope for this method of studying is that the student will acquire a new and valuable approach to the study of the patient which will enable her to continue her growth in knowledge and appreciation not only of nursing, but of the patient as an individual.	2. Case studies encourage a disposition of lifelong learning and instill value of the patient as an individual.
3. Use of the case study will take emphasis away from the technical aspects of nursing.	3. Case studies will apply knowledge rather than emphasize skill acquisition.
4. Using the case study method allows a focus on the whole patient to make each care more personal and complete; it will be a gain in teaching and practice of nursing.	4. Study each patient as a whole enabling more intelligent and sympathetic nursing care.
5. Students become more interested in the individual patient when the ward experiences are approached in this method (case study), and that the nursing care given to each patient is improved.	5. Case studies are tools that translate theoretical knowledge into practical knowledge which improves patient care.
6. No one method of teaching either in the classroom or in the ward can solve all the problems of nursing education and it must be remembered that the case study is just one more tool that can be used to develop the educational content of the ward.	6. Case studies are not the only method which adds value to the ward learning experience.
7. The nurse should be instructed in scientific and clinical knowledge and develop technical skill.	7. Give the more important underlying scientific data that serve as a basis for selecting or designing each nursing intervention.
8. If the student is to be successful she must also develop the personal qualities of sympathy, kindness and tact that will inspire patients with confidence.	8. Qualities of sympathy, kindness, and tact are important in patient care.
9. She must have a real interest in the patient as an individual	9. Through the case study, she will develop a greater interest in all patients.
10. Knowledge of the personal, environmental and economic situation as well as the clinical and nursing aspects is necessary for the complete study of a patient.	10. By studying each patient as a whole more intelligent and sympathetic nursing care.

Significant Statement	Formulated Meaning
11. A study of a patient which includes social as well as medical and nursing data is called a nursing case study.	11. Case studies include social history.
12. Better understanding of the patient will enable the nurse to give more intelligent and sympathetic nursing care.	12. By studying each patient as a whole more intelligent and sympathetic nursing care.
13. Through communication with community agencies, the nurse will gain much valuable information.	13. Through communication, the student identifies valuable patient data.
14. From observations of the patient, the nurse can determine discharge needs.	14. Through observation, the student can recognize patient needs.
15. Through studying a few patients in-depth, the nurse will develop a greater interest in all patients and she will also develop a certain technic in investigative nursing problems and assembling data.	15. Develop a technic in investigating nursing problems and assembling data.
16. The nursing case study will create a vivid picture of symptoms, course and treatment of disease.	16. Students will develop an understanding of pathophysiology.
17. It will help the nurse to see her function as a health teacher not only to the patient but to the visitors on the ward.	17. Develop awareness of the opportunities for health teaching on the ward.
18. A study must begin with the nurse noting her own observations.	18. To begin a study, the nurse must have self-awareness.
19. Daily observations and notes should be made about the patients for whom she is caring.	19. Making notes of observations is essential to caring for patients.
20. Observing and recording of symptoms and the reaction of each patient to medicines and treatments becomes more vital as students follow the daily progress of their patients.	20. Case studies develop powers of observation.
21. The patient becomes the unit about which all thought centers, and the gathering of data concerning him calls attention to him as a member of his family and of his community.	21. A patient has many roles in life which must be considered in their care.
22. An aim of the nursing care plan is to improve the nursing care by studying each patient as a whole	22. Case studies use a holistic approach which improves patient care.
23. To seek information about patients in an organized, systematic way	23. Seek information about patients in an organized, systematic way.
24. To record such information so that it has practical value to the student nurse as well as to others.	24. Record information that has practical value.
25. To emphasize the importance of understanding the treatment	25. Emphasize the importance of understanding treatment.

Significant Statement	Formulated Meaning
26. To develop powers of observation	26. Develop powers of observation.
27. To be aware of the opportunities for health teaching on the ward	27. Develop awareness of role as nurse educator.
28. To become familiar with the professional literature in the field.	28. Nursing care plans are supported by professional literature.
29. Successful medical treatment of a given patient often depends on an understanding of his mentality, his economic situation, his responsibilities and aspirations	29. Understanding the patient as a complex individual.
30. The nurse should never lose sight of the individual	30. Patient as an individual.
31. It may be more important to study the patient than the disease which he has.	31. Patient as more than a disease process.
32. Many conditions, primarily physical, will affect the mental make-up of the patient.	32. Treat the patient as a whole.
33. Though the patient selected for study should present nursing problems, many of these problems have to do with the understanding of people.	33. Respect for each patient.
34. The nurse will gain from her experience with many patients, how to appeal to different personalities and how to gain their cooperation.	34. Through experience the nurse learns people skills.
35. Let the nurse see the patient not only as a medical and nursing problem, but in relation to his past life and with a future which may be influenced by his illness.	35. Patient as an individual first, disease second.
36. When the student is making an intensive study of any patient she will study his medical history including all aspects of his past health as well as present illness.	36. Medical history includes past and present illnesses.
37. The case study is assembled under three major headings: social history, medical history, and nursing problems and their solutions.	37. Case studies include categories.
38. Preliminary information is obtained from head nurse	38. Head nurse is a source of information
39. Most valuable source is always the patient	39. Patient as a source of information
40. First steps of a study are to observe the patient and listen	40. Observation and listening as data collection
41. In getting the story firsthand, write down observations, what the patient tells about himself, illness, past life, home, work and responsibilities	41. Patient is best source of information
42. Observation must be accurate and for it to be meaningful, the nurse must also have a background of scientific knowledge	42. Scientific knowledge makes observations more meaningful.

Significant Statement	Formulated Meaning
43. Student should list all symptoms observed and nursing problems encountered	43. Symptoms and nursing problems are observed
44. List should be checked daily and changes noted	44. Daily evaluation with modifications
45. Diagnosis on admission, after physical exam	45. Diagnosis after admission may change after physical exam
46. Identifying information as name, address, age, etc.	46. Demographics are important
47. Past and present medical history	47. Personal and family medical history is important.
48. From the chart the student learns the significance of physical findings and laboratory examinations.	48. Chart as a source of information.
49. Student must be able to understand report and accurately record the development of new symptoms.	49. Hone abilities to compare, analyze, and interpret facts about patients and illnesses.
50. Compare the lab findings listed with the normal	50. Differentiate normal values from abnormal values.
51. The entire medical picture as it develops in the hospital is presented in the chart and is made intelligible to the nurse by her scientific background and observation at the bedside.	51. The individual nurse makes chart data more meaningful by applying knowledge.
52. The head nurse and supervisor as sources.	52. Nurses as sources of information
53. Head nurse will help students solve their difficulties and emphasize any nursing problems for caring for the patient.	53. Head nurse as mentor.
54. In her greater experience in nursing she will assist the student in selecting information as well as directing her where to get certain specific data about any patient.	54. Head nurse as experienced and mentor.
55. Social workers are a resource about home and environment problems, piece together social history.	55. Social worker as a source for social history.
56. Nursing and medical history should be well established first	56. To start a case study, understand nursing and medical history.
57. Information about the home and community and environment is of vital interest to the nurse.	57. Community is important to patient.
58. The nurse should learn enough about the social background of the patient to understand how the medical recommendations can be carried out when he is discharged from the hospital.	58. Nurse must plan beyond the hospital stay.
59. The nurse occupies a very important place in the health education of patients.	59. Nurse as health educator.

Significant Statement	Formulated Meaning
60. She is responsible not only for skilled nursing care while he is ill but should also teach him health and prevention.	60. Nurse as educator about wellness and illness.
61. The student nurse is made aware of the value and importance of good health for herself through the supervision of student health given by the school of nursing.	61. Student nurse learns about good health through personal experience.
62. Through the self experience, the student should not only develop judgment concerning her own health problems but develop responsibility toward the prevention of others from infection when she is ill.	62. Through self experience of illness, student will develop insight for how others are affected.
63. The hospital nurse in close attention at the bedside has a great opportunity to teach health and prevention.	63. The bedside provides a unique opportunity for teaching.
64. It is important that she have some knowledge of the patient's plan when he leaves the hospital.	64. The nurse is responsible for care planning beyond the hospital.
65. In all patient contacts the nurse should use every opportunity to teach health and prevention; to think of whether the patient will be able to put into effect this health teaching in his home environment and to realize that frequently the patient's cure continues long after he has left the hospital.	65. Through single patient experiences, the nurse will learn how the community is affected.
66. It is very important that the nurse know something about the social agencies in her community.	66. The nurse should be aware of patient resources.
67. She should know how the community is meeting the needs of its members: shelter, health, employment, and education, and recreation, spiritual and aesthetic needs.	67. The nurse should understand the role of the community for individuals.
68. In every contact with patients the nurse in the hospital should study the social significance of the disease.	68. The nurse should understand how disease affects community.
69. She should learn how community agencies are cooperating to solve medical-social problems, and how each one takes its place in a community scheme in the combat of disease.	69. The nurse's role is also in the community.
70. Selection of patient for study	70. The nurse selects a patient to study.
71. Collecting and interpreting data	71. Data is not only collected but interpreted.
72. list available information	72. Patient information should be listed.
73. day to day observations	73. Observations are daily.
74. Investigate all sources of information	74. Many sources of information are available.

Significant Statement	Formulated Meaning
75. Emphasize data that has particular significance for the nurse	75. Distinguish significant patient data.
76. Note the action of all treatment, medicines or diet on the symptoms	76. The nurse must understand each treatment, medicine, or diet effect on symptoms.
77. In selecting medical and social information the student will remember that it is to be the background for a detailed discussion of all nursing aspects.	77. Case studies require analysis of data which is important to establish background.
78. Relationships between the social facts and nursing problems should be discussed.	78. Make cognitive connections between social factors and nursing problems.
79. Any aspect in the care of the patient that has called for technical skill, patience, tact, or understanding as well as for clinical knowledge should be developed.	79. Case studies encourage skill development and application.
80. Through describing the details of nursing care in logical order, it is shown that the student understands the nursing needs and plan for the patient.	80. Thoughtful description synthesizes understanding.
81. Contrast the picture presented by any particular patient with the typical case.	81. Student will differentiate normal and abnormal values by contrasting.
82. The study should show that the student was aware of the preventive aspects and used every opportunity to teach health.	82. Case studies develop awareness of nurses' various roles.
83. In concluding each study the student summarizes her teaching and learning by what she taught the patient, what she learned from the study and reference reading.	83. Reflection is essential so the student may actualize what was learned.
84. Reflect upon what I learned from this study.	84. Many things are learned about nursing and self in case studies.
85. In what ways did the study of this patient add to your knowledge of nursing in general as well as to your knowledge of nursing in this particular disease?	85. Case studies contribute to knowledge of nursing and diseases.
86. Through this reflection, the information may be of value to her or others in caring for patients in the future.	86. Case studies call for reflection which is personally valued and shared.
87. Constant reference reading in connection with clinical experience will help the student develop an intelligent interest in the patient.	87. Become familiar with the professional literature in the field.
88. By learning from what sources information may be obtained about different diseases, the student becomes a better equipped graduate.	88. Knowing what sources are available equips nurses to practice safely.
89. Medical training is given at different periods during the student's course.	89. Training is incremental so the student may build on knowledge.

Significant Statement	Formulated Meaning
90. Initial studies will be most valuable to the student when cases about which every nurse should know are the first to be studied in detail.	90. Starting with general nursing cases will be most valuable to learning.
National League of Nursing (1937). *A curriculum guide for schools of nursing*. National League of Nursing Education: New York, NY.	
91. A method of teaching is a means of furnishing opportunity for the learner to use knowledge's, skills, and attitudes in such a way that the desirable ones become integral parts of the learner's personality.	91. Effective teaching methods facilitate development of knowledge, skills, and dispositions for lifelong learning.
92. The outcomes of method, what the student knows, does, and is, are determined more by the manner in which a method of teaching is used than by the specific type of method employed.	92. Positive outcomes are more attributed to implementation of methods rather than content.
93. If the principles of teaching, which guide in the application of a method, are derived from a static psychology, the methods of teaching will correspond.	93. If teaching ideas do not evolve with changing times neither will the methods.
94. The resulting individual will be capable of reacting in controlled or fixed situations only.	94. Using dated teaching ideas limits learning experiences.
95. The use of the same methods, guided by principles from a dynamic psychology, will develop an individual capable of making an effective adjustment to changing life situations.	95. Evolved teaching ideas facilitate students to be adaptable.
96. Method, like every other aspect of the curriculum, must grow out of and be consistent with the aim.	96. Method and aim must align.
97. To accept the adjustment aim for nursing education is to accept a dynamic psychology which explains most effectively the influence of environment and the nurse's method of reacting to it.	97. For nursing to evolve, the influence of environment and responses should guide education.
98. Psychologists have shown that the ability to adjust to life situations accompanies the growth of personality integration, and that adjustment appears as the normal functioning of the integrated personality.	98. Adjusting to life is the outcome of healthy development.
99. Integration of the individual is believed to result when she faces effectively a sufficient number and variety of life situations.	99. A variety of life experiences contribute to a well adjusted individual.
100. Through the study, she learns to select and organize all pertinent information.	100. The student learns to select and organize all pertinent information.

Significant Statement	Formulated Meaning
101. When she reacts to certain elements or problems in a situation, the reaction is always in relation to other elements, for learning is the process whereby the individual discovers between facts, principles, situations, or elements of situations.	101. Learning is integration of facts, principles, situations or elements of situations.
102. Before selecting her methods of teaching, the instructor will study the content and desired outcomes of her subject, the facilities available for her use and the membership of the class she is to teach.	102. The context and content will contribute to the effective choice of teaching method.
103. The methods adapted to nursing arts will differ from those used effectively in sociology or the laboratory sciences.	103. Nursing's complexity calls for unique teaching methods.
104. Every teacher will need to discover the methods she herself uses most successfully.	104. Choice of teaching method is a personal choice.
105. A variety in method stimulates and helps to maintain interest.	105. Variety stimulates and maintains interest.
106. The case method is a written study of the whole patient in which the student nurse under teacher guidance studies a patient.	106. Case method is a written understanding of the whole patient guided by the teacher.
107. Through the study she learns to select and organize all pertinent information and to use it in developing her own insight and understanding of the nursing care.	107. Develop own insight and understanding of the nursing care by using pertinent information collected.
108. The student should have the opportunity to apply and test the knowledge gained in a nursing situation.	108. Care plan will provide students the opportunity to apply and test knowledge gained in a nursing situation.
Harmer, B. & Henderson, V. (1939). *Principles and practice of nursing*. The MacMillan Company: New York.	
109. An attempt is made to give the more important underlying scientific data that serve as a basis or as a rational for selecting, prioritizing, or designing each method.	109. Understanding scientific data as rational for a method is emphasized.
110. The average individual has more or less regular habits in relation to eating, sleeping, bathing, exercising, and other activities that affect his yearly plan for meeting the needs of the body – a plan that enables them to feel reasonably well, or what they consider to be reasonably well.	110. A plan should follow an individual's life style for the individual to feel comfortable.

Significant Statement	Formulated Meaning
111. It seems self-evident that the nurse cannot make a really intelligent and individualized plan for the care of the patient without making some sort of a case study.	111. To create an intelligent, individualized plan for the care of a patient.
112. Everyone, young and old, is likely to have an individual and comparatively habitual way of taking care of himself, or being cared for, and a time schedule for the activities involved.	112. All persons have habits about their daily care.
113. A patient seeks medical advice when they can no longer care for themselves.	113. Medical care is sought when patients lose independence in their care.
114. The patient expects the proposal of modifications that will either prevent disease, reestablish health or relieve pain and discomfort when a return to health is impossible.	114. Patients desire modifications rather than a complete change.
115. The modification of the patient's manner of living and the provisions for making these modifications possible is what is meant by the plan of care for the patient.	115. Nursing care plans detail modifications of daily living specific to the illness.
116. The aims of the plan may be to prevent sickness, to cure it, or to make life endurable when the individual has an incurable disease.	116. Nursing care plans may be preventive, healing or palliative in nature.
117. All persons involved in the plan of care should know what the plan is designed to accomplish and their responsibility in relation to the whole.	117. Participating individuals should have awareness of their role in patient care.
118. There is nothing that requires more insight, acumen, skill, and cooperation on the part of these persons concerned with the treatment care, and guidance of the patient than the working out of an effective and flexible plan of care.	118. Creating an effective, flexible plan of care calls for synthesis on many levels.
119. The quality of such planning varies according to the native ability, training, and interest of both the patient and his attendants.	119. Quality of nursing care plans depend on nurse and patient.
120. A multi-disciplinary approach with the physician, the nurse, the nutritionist, the social worker, and the special therapists is the team approach.	120. Caring for patients requires a team approach.

Significant Statement	Formulated Meaning
121. Means must be devised to coordinate their efforts and direct them toward the accomplishment of a common aim.	121. To use as a means of communication among team members, colleagues.
122. The plan should be made with the assistance, suggestion and approval or acceptance of the patient.	122. Plans should be made in conjunction with patients.
123. To make the patient acceptant of the regime, a great deal of instruction or guidance may be required.	123. Patients need understanding to follow a proposed plan of care.
124. The plan of nursing care is left to the nurse.	124. Plan of care should be carried out by a capable nurse.
125. When the physician attempts to care for the patient alone, many more problems occur	125. Multidisciplinary care causes fewer mistakes.
126. The nurse arranges provisions for keeping the patient clean, nourished, maintaining comfort in posture(s) conducive to health, for kinds and amounts of exercise suited to his needs, for occupation and diversion or variety in his day, for normal elimination and use of measures prescribed by the physician.	126. The nurse tends to all patient needs.
127. Include the diagnostic, therapeutic, and relief-giving measures prescribed by the physician.	127. Plan of care originates from physicians orders.
128. Timing of activities is important to derive maximal care.	128. Activities should be organized to provide maximum impact.
129. The nurse should plan and carry out only those interventions which she can carry out safely and effectively.	129. The nurse should not practice out of her scope.
130. Time and effort will be wasted if there is not plan for directing activities aimed to accomplish a desired end.	130. Time is wasted if an end objective is not initially identified.
131. Each person's case should be looked upon as a problem of how may the individual be helped to regain or maintain health or if no cure is found, how they may be comfortable.	131. Approach each person's case as a problem: How may this patient be helped to regain or maintain health? How may he or she be made as comfortable as possible for the rest of his or her life?
132. Each person differs in some respect from all others; the solution of his problems differs from the solution of their problems even though there may be many similarities in situations.	132. Each person is unique although they may have medical problems similar to other persons.

Significant Statement	Formulated Meaning
133. The care of each person assigned should be treated as an individual problem.	133. Care should be personalized.
134. A plan must be evolved for solving the patient's problem with the therapeutic objectives kept clearly in mind.	134. Therapeutic objectives guide care plan development.
135. Writing the care plan expresses what the nurse hopes to accomplish with nursing care over the period of time the patient is expected to be in the hospital, the plan of home care that she makes in cooperation with the patient, the family, and the social worker before the patient leaves the hospital would be stated or implied in plans made subsequently.	135. Clarify what is to be accomplished with nursing care over the period of time the patient is expected to be in the hospital, and the plan of home care that she makes in cooperation with the patient, the family, and the social worker before the patient leaves the hospital.
136. A nurse must know a good deal about the person and the way he lives if she is to make a successful plan of nursing care.	136. Lifestyle should be considered for a care plan to be successful.
137. A preliminary study is made to institute a regime suited to the patient's needs, she must continue to study the patient and the situation in order to modify the plan as conditions change.	137. A preliminary study based on current needs will be modified.
138. This power of analysis varies greatly according to the native intelligence, the sensitiveness, and experience of the nurse.	138. All nurses have varying abilities of analysis.
139. The ability to collect significant information and to observe accurately is essential in the practice of the medical arts.	139. Understanding what is pertinent and keenly observing is essential to medicine.
140. Preparing the nursing care plan follows a process similar to that of a physician making a plan of therapy: making a thorough examination and securing a medical history.	140. Assessment and history are part of making a care plan.
141. The nurse is as dependent upon a thorough knowledge of the patient in planning nursing care as the physician is in mapping out a plan of therapy.	141. Fully understanding a patient is important to all disciplines.
142. The nurse should know all about the patient in order to plan nursing care for their specific needs.	142. Appropriate nursing care is dependent on knowing the patient.

Significant Statement	Formulated Meaning
143. Factors that affect nursing care are sex, age, race, nationality, religion so she may understand his language difficulties and the way he thinks and feels about many things.	143. Demographics and personality are influential factors for nursing care.
144. Make a fairly accurate assessment of native intelligence, previous experience because she must constantly seek to gain the cooperation of the patient through explanation of what is being done for him or what he must do for himself.	144. Understanding learning style is important for the nurse in patient teaching.
145. Physician's diagnosis and plan of therapy, severity of condition so the nursing care conforms to the general outlines of treatment.	145. Medical information will guide nursing care.
146. Mental condition or mood of individual because this influences on nursing care as much as the physical condition does.	146. Mentality and physical well-being are equally important.
147. Direct and indirect causes of the condition for which the patient is being treated as the care of the patient is directed toward the prevention of future illness as well as toward the care of the present one.	147. Contributing factors to illness should be considered in prevention and curing illnesses.
148. Economic status, resources, dependence upon others, need for guidance in relation to health procedures, community discussions.	148. Socioeconomic factors contribute to nursing care.
149. The nurse cannot make a really intelligent and individualized plan for the care of the patient without making some sort of case study.	149. A case study is an intelligent and individualized plan.
150. When the needs of a patient are not analyzed, the inevitable result is that he is fitted into a routine pattern of care.	150. A thorough assessment and understanding of patient will individualize care.
151. A general structure of nursing case studies exists and should be used with consistency.	151. Case studies follow a format.
152. Factors that influence nursing care transpires as-diagnosis, social history and health record, HPI, present signs and symptoms, laboratory findings, treatment prescribed by physician	152. Specific data should be listed under factors that influence nursing care.

Significant Statement	Formulated Meaning
153. What those things suggest in terms of nursing care-general nature of nursing care suggested by the diagnosis, care must be modified by patient's past experience, social and economic status, HPI may influence nursing care and preventive measures to be taken later, nursing care designed largely to relieve symptoms of illness, lab findings like the diagnosis important leads in nursing care, nursing care built around prescribed medical treatment.	153. From the specific data, interpretation and analysis of how they contribute to nursing care should be listed.
154. Various sources from which the nurse secures information about the patient are used.	154. Data sources are multiple.
155. Patient's record - medical history form, physical examination and findings, social data, patient's manner of living and economic status, diagnostic test results, notes on the patient's progress.	155. Medical record as information source.
156. Patient, family, friends - through keen observation can obtain most info from patient and an idea of relationships with associates.	156. Significant others as information sources.
157. Through interviewing the patient and family members obtain information for initial plan and modifications.	157. Interviewing as information source.
158. Professional records dealing with the same disease or condition-learn possible symptoms patient is likely to have, significance of symptoms, cause of the condition, usual treatment of the disease and the usual plan of treatment.	158. Past medical records as resources.
159. Measuring the success of the plan of nursing care and its execution is essential.	159. Evaluation of care plan success and execution is an important part of the learning process.
160. Success is demonstrated by recovery.	160. Degree of recovery depends on effectiveness of care plan.
161. During recovery patients become dependent upon the nurse	161. Patients rely on nursing care during recovery.
162. Success is making the patient as independent during the recovery as he was dependent during the acute stage of illness.	162. Success is aiding a patient to achieve their best state of health.

Significant Statement	Formulated Meaning
163. If daily nursing care makes the patient uncomfortable, or fails to relieve pain, there is usually something wrong with its plan or the way it is carried out.	163. Nursing care plans need modification if care does not relieve discomfort.
164. With the care of each patient the nurse should feel that she has added something to her store of knowledge and has improved her professional skill.	164. Experience should contribute to knowledge and skill.
165. Nothing could be more helpful to nurses than a collection of clinical nursing plans that they have made and used for their patients.	165. Past learning experiences provide building blocks for future learning.
166. With each plan notes should be kept on the condition of the patient, the reasons for, and the degree of success or failure of, the nursing measures employed.	166. Examine nursing measures through reflection.
167. Includes an hour-by hour and a long-term program designed with reference to the patient's particular needs and the conditions under which he lives.	167. Care plan includes short and long term goals.
168. Plan is made by the physician in collaboration with the nurse, the dietitian, and other medical workers associated with him in the care of the patient.	168. Plan is created as an interdisciplinary tool.
169. The person for whom the plan is made, if he is not too sick and has reached the age of reason participates in making and executing the plan, since his cooperation is essential to its success.	169. Nursing care plans should be personalized to ensure success.
170. All involved with care should know the central therapeutic aim in order to prevent their working at cross purposes.	170. Awareness of therapeutic aims facilitates effective care.
171. There should be a schedule of care for the patient that is known to all those who are responsible for its execution in order to prevent omissions, overlapping, overcrowding, and other faults that are all too common in medical care.	171. Schedules help prevent errors.
172. Cooperation amongst workers and consistency in treatment and care are fostered by the consistent use of nursing care plans	172. Nursing care plans foster teamwork.

Significant Statement	Formulated Meaning
173. Written plans of care seem to provide the surest means of making the schedule or plan of care known to all concerned.	173. Nursing care plans are a tool for communication.
174. Planning treatment and care on an individual basis means that those who plan it must acquire a certain amount of information about the condition of the patient in order that an analysis may be made of his needs.	174. To analyze and evaluate Nursing care plans, care givers must know the patient personally.
175. The doctor, the nurse, the dietitian, and the social worker should have a clear understanding of their functions in relation to planning and executing the care of the patient.	175. All team members should understand their scope of practice.
176. Success or failure of the plan of care is demonstrated in various ways.	176. Nursing care plans are complex.
177. Measuring success of preventative nursing may be measured by what the nurse thinks she has contributed toward keeping the individual well.	177. The nurses' contributions to wellness are preventative nursing.
178. In those nursing the sick, the recovery and rehabilitation of the individual in the shortest possible time.	178. Good nursing care of the sick is reflected by quick recovery and rehabilitation.
179. In nursing anyone, particularly those who have an incurable and painful disease, her skill is based largely on her ability to relieve the patient.	179. Good nursing care of palliative patients is based on ability to relieve the patient.
180. Success in nursing is evidenced by a spirit of friendliness and cooperation between the nurse and the patient, his family and his friends, and between the nurse and other medical workers.	180. Good collaborative relationships evidence successful nursing.
181. It is difficult to imagine anything that offers more satisfaction than a well-conceived and skillfully executed plan of nursing care.	181. A well done care plan is a satisfying learning experience.
Kron, T. (1966). *Nursing team leadership*. W.B. Saunders Co: Philadelphia, PA.	
182. Provide a guide to patient care.	182. Guide patient-centered care.
183. The plan is an outgrowth of discussion, during which every team member focuses her attention on the problems and needs of the patient as an individual.	183. The plan is collaborative and individualized.

Significant Statement	Formulated Meaning
184. Nursing care plans provide a means of communication.	184. Communicate among the healthcare team.
185. Everyone caring for the patient will receive the benefit of the plan, suggested by the team, and will be better able to carry on a program of continuous individualized care.	185. Care will overall be improved for all persons by using a care plan.
186. Nursing care plans provide a guide for supervising the team.	186. Provide a guide for supervising.
187. The plan gives information about what nursing care is needed and how it is to be given.	187. Nursing care plans answer questions of what and how.
188. Nursing care plans provide a basis for evaluating patient care.	188. Serve as a basis to evaluate patient care quality.
189. Because the nursing profession does not yet agree on a specific definition of nursing care, nurses tend to evaluate both the quality and quantity of nursing care provided by her team.	189. Care is evaluated by how well and how much is given by the nursing team.
190. Nursing care is that help given to the patient to assist him through his illness by minimizing as much as possible the source of his tensions.	190. Nursing care is anything that minimizes tensions for patients.
191. The aim of nursing care indicates what the team hopes to accomplish for the patient, or what they can help him to accomplish for himself.	191. Nursing care goals are what the nurse can do and what the patient can do.
192. The patient's diagnosis, religion, marital status, age, etc. are usually written somewhere on the record of the patient care plan.	192. Medical information, demographics, social histories are important in Nursing care plans.
193. This information is not directly part of the plan, it is important to the team because it provides background material that will help them to understand the patient better.	193. A thorough history helps to individualize care.
194. Begin the nursing care plan when the patient is admitted.	194. Nursing care plans begin on admission.
195. Visit with the patient and make your own observations.	195. Interview and observations help in data collection.
196. Interview the patient to get to know the patient.	196. Interviewing establishes a relationship.
197. Observe appearance, facial expression, speech, and behavior.	197. Interviewing and observing go hand in hand.

Significant Statement	Formulated Meaning
198. The aim of nursing care is found in the needs and problems of the patient and may be related either to his inability, because of some problem, to satisfy one or more of his basic needs or to the aim of medical treatment instituted by the doctor.	198. Nursing care is individualized to the patient's particular needs and problems.
199. The objective must be related to that which the team hopes to accomplish as they care for each particular person.	199. Nursing care objectives must reflect goals of the team.
200. Planning patient-centered care is not easy but, with practice, you and your team will become better able to consider each patient as an individual, to define his problems and to determine the best way to meet those problems.	200. Identifying patient needs and planning individualized care takes practice.
201. Any nursing care plan, if it is to be effective, must contain information concerning the care the patient needs at the present time.	201. Current needs must be addressed for Nursing care plans to be effective.
202. This present care will also include the foreseeing of future problems and trying to prevent them.	202. Care should include preventive measures.
203. With each patient encounter, you may receive information, either from what you see or from what the patient tells you, indicating that a change in his plan of care is necessary.	203. Assessment will determine needed modifications.
204. To coordinate the abilities of the various members of your team with the care your patients need.	204. Nursing care plans coordinate multi-disciplinary care.
205. As a guide to insure that no part of the patient's care will be omitted.	205. Nursing care plans serve as organization tools.
206. To show the progress of the patient as well as to indicate present nursing care.	206. Nursing care plans are used as evaluation tools.
207. Gives activities you should observe.	207. Nursing care plans are guides for nursing care.
California Department of Public Health (1970). *Guidelines for nursing care plans*. Government Publications Section: Sacramento, CA.	
208. A written personalized plan for the patient indicates the kind of nursing care he/she needs, how it can best be accomplished, and the goals which nursing personnel hope to attain.	208. Nursing care plans indicate patient needs, nursing care, and goals.

Significant Statement	Formulated Meaning
209. By using Nursing care plans, it demonstrates the acceptance of the philosophy of viewing patients as unique personalities who require individualized care and have different needs, desires, and goals.	209. Nursing care plans signify individualized patient care.
210. Nursing care plans reflect coordination with the overall plan of medical care.	210. Nursing care plans are collaborative.
211. Nursing care plans are based upon scientific principles and are therapeutically effective.	211. Nursing care plans are scientifically based and purposeful.
212. Nursing care plans insure maximal physical and emotional safety and security for the patients.	212. Nursing care plans ensure sound nursing practice.
213. Nursing care plans are based upon the immediate health needs.	213. Nursing care plans begin with immediate needs.
214. Nursing care plans include long-term planning to help the patient regain or maintain the maximum degree of health attainable, and encompass health promotion, care and prevention of disease or disability, and rehabilitation.	214. Nursing care plans include long-term, preventative health goals.
215. Nursing care plans reflect the psycho-social needs of the patient and the interrelatedness of these needs and physiological needs of the patient.	215. Nursing care plans are holistic.
216. Nursing care plans reflect patient-family participation dependency upon his and/or their potential.	216. Nursing care plans include patient as a member of a social unit.
217. Eliminates routine care.	217. Eliminate “routine care” by focusing on the individual person.
218. Is a central source of information about the patient and his needs to be communicated to all nursing personnel.	218. Care plan will be used to communicate information about the patient and his needs to all nursing personnel.
219. Means of eliminating the traditional “report” or other fragmented methods of transmitting information.	219. Comprehensive method of communication.
220. A tool for comprehensive communication at change of shift reports.	220. Comprehensive method of communication.
221. Basis for nursing assignment.	221. Nursing care plan as a management tool.

Significant Statement	Formulated Meaning
222. Tool for providing continuity of patient care on a twenty four hour basis.	222. Provide a written format for continuity of patient care.
223. Useful for patient-centered conferences.	223. As a source of information.
224. Provides the background information for meaningful entries in nursing notes.	224. Allow for meaningful entries in nursing notes due to pertinent information collected.
225. Tool for discharge planning and provides continuity of care from one facility to another or to the home.	225. Tool for writing discharge teaching.
226. Steps in Development: gathering information, writing the plan, how to use the plan, evaluating the plan.	226. Care planning development follows a process.
227. All patient information is needed.	227. Includes medical and social history.
228. Methods of gathering information are interview, the nursing history, planned observation and communication, team conferences.	228. Interviewing, observation and communication are developed through data collection.
229. Utilize the information from the nursing history.	229. Information is used in care planning.
230. Rule out problems that do not seem to require attention.	230. Data collection includes differentiating irrelevant information.
231. Rule in problems that will receive attention of nursing personnel.	231. Data collection includes ruling in pertinent information.
232. Determine orientation needs.	232. What the patient needs to be familiar for hospital stay.
233. Identify specific nursing actions to be tried.	233. Identify nursing actions.
234. Observe the patients appearance and behavior.	234. Observation as data collection.
235. Assess what patient is able to do for himself.	235. Determine patient's level of function.
236. Assess vocabulary and language skills.	236. Communication barriers may exist.
237. Assess and predict learning needs.	237. Learning needs should be established.
238. Identifying problems or needs is vital to start care planning.	238. Problems initiate the plan of care.
239. Once gathered, the data must be sorted out and analyzed.	239. Appraise and analyze data.
240. This process involves exploring and thinking through what this information means in terms of the problems or needs that nursing can do something about.	240. Care planning calls for thoughtful analysis of data.

Significant Statement	Formulated Meaning
241. Look at the individual, not the disease.	241. Treat patient as an individual.
242. Not only are observation skills and physical care needed but also knowing, caring and feeling.	242. Expertise and interpersonal skills are needed in nursing care.
243. Select those problems that are most critical to the patient.	243. Select problems according to relevance.
244. Avoid problems that are not applicable to the present situation.	244. Be able to determine what is applicable and what is not.
245. Try not to solve several problems at a time	245. Take problems one at a time.
246. Be aware that there may be smaller problems that are part of larger problems.	246. Small issues contribute to larger issues.
247. Be sure to determine the patient's needs, not your own.	247. Develop self-awareness.
248. Once problems have been identified, goals and objectives are developed.	248. Goals and objectives stem from identified problems.
249. The mere development of the plan for each patient does not insure that it is followed; this is accomplished through assignment of nursing team members on the basis of their competence and the needs of the patients.	249. Nursing care plans are tools which must be carried out by competent nurses.
250. It is necessary for the professional nurse to make her own observations and evaluation of nursing action relative to each patient.	250. Reflection and evaluation of nursing action is necessary.
251. As the nursing care plan is used and updated, the process of evaluation has been occurring on an ongoing basis.	251. Evaluation is a continuous process.
252. As a means of upgrading the quality of nursing care, there is a need for an evaluation process to take place after the patient has been discharged.	252. Final evaluation of Nursing care plans will improve quality of nursing care.
253. The plan can be evaluated by asking thoughtful questions.	253. Evaluation occurs with asking questions.
254. Was the proper information gathered?	254. There is useful and meaningless data.
255. Were appropriate sources of information utilized	255. Some sources of information are not appropriate.
256. Were the correct needs identified	256. Needs must be correctly identified.
257. Should discharge planning have been initiated earlier.	257. Discharge planning should occur before discharge.

Significant Statement	Formulated Meaning
258. Was there evidence that nursing care was individualized.	258. Nursing care should be individualized.
259. Was the plan of care communicated to the nursing staff on a 24 hour basis?	259. Plan of care should be continuously communicated.
260. Were the nursing actions appropriate?	260. An effective care plan is appropriate.
261. Were the long term goals achieved?	261. Long term goals should be achieved.
262. Were the principles of writing nursing Nursing care plans reflected?	262. Principles of writing Nursing care plans should be used.
Potter, P. & Perry, A. (2009). *Fundamentals of nursing* (7th ed.). Mosby: St. Louis.	
263. You design a written plan to direct clinical nursing care and to decrease the risk of incomplete, incorrect, or inaccurate care.	263. Nursing care plans provide direction which decreases poor nursing care.
264. As the client's problems and status change, so does the plan.	264. The care plan is a changing process.
265. A nursing care plan is a written guideline for coordinating nursing care, promoting continuity of care, and listing outcome criteria to be used in evaluation.	265. Listing what needs to be done improves continuity of care.
266. The written plan communicates nursing care priorities to other health care professionals.	266. Nursing care plans are tools for communication.
267. The care plan identifies and coordinates resources for delivering nursing care.	267. Nursing care plans identify and coordinate resources.
268. Written Nursing care plans organize information exchanged by nurses in change-of-shift reports.	268. Aid student in understanding the organization skills needed for nursing care.
269. The nursing care plan enhances the continuity of nursing care by listing specific nursing interventions needed to achieve the goals of care.	269. Help develop skills of written communication.
270. A correctly formulated nursing care plan makes it easy to continue care from one nurse to another.	270. Continuity of care is improved with effective Nursing care plans.
271. When developing an individualized care plan, involve the family and client.	271. Family and client are important to NCP development.
272. Most written plans include expected outcome criteria used in the evaluation of care.	272. Most Nursing care plans project what will happen to determine if NCP is useful.
273. The complete care plan is the blueprint for nursing action.	273. Nursing care plans as sole guide for nursing action.

Significant Statement	Formulated Meaning
274. It provides direction for implementation of the plan and a framework for evaluation of the patient's response to nursing actions.	274. Nursing care plans as a guide for care and evaluation of care.
275. Student Nursing care plans are useful for learning the problem-solving technique, the nursing process, skills of written communication, and organizational skills needed for nursing care.	275. A tool for learning the problem-solving technique of nursing and the nursing process
276. Most important, your use of the nursing care plan helps you apply knowledge gained from the nursing and medical literature and the classroom to a practice situation.	276. Apply knowledge gained from the nursing and medical literature and the classroom to a practice situation.
277. Students typically write a care plan for each nursing diagnosis, using a columnar format that includes assessment findings, goals, expected outcomes, nursing interventions with supporting rationales, and evaluative outcome criteria.	277. Nursing care plans are written in a standard format.
278. The student care plan is more elaborate than a care plan used in a hospital or community agency because its purpose is to teach the process of planning care.	278. Nursing care plans as learning tools for the process of planning care.
279. The nursing diagnosis with the highest priority is the beginning point for the nursing care plan, followed by plans for other nursing diagnoses in order of assigned priority.	279. Nursing care plans as learning tools for prioritizing patient needs.
280. Enter into the assessment column all assessment data relevant to the corresponding nursing diagnosis, only important data should be listed.	280. Assessment column should contain all relevant assessment data.
281. List the goals and outcomes identified for the client.	281. Identified goals and outcomes should be listed.
282. Begin to translate the goals and outcomes into an action plan that includes appropriate nursing interventions that offer a coordinated approach to nursing care.	282. Goals and outcomes are established first and guide interventions.
283. Write the action plan in the implementation column of the care plan.	283. Implementation column includes the action plan.

Significant Statement	Formulated Meaning
284. Enter a scientific rationale for a specific intervention.	284. Interventions should be explained by rationale.
285. A scientific rationale is the reason that you chose a specific nursing action, based on supporting evidence.	285. Scientific rationale is evidence for nursing action.
286. Each rationale needs to include a reference, whenever possible, to document the source from the scientific literature; this reinforces the importance of evidence-based practice.	286. Through documenting scientific rationale, the importance of evidence-based practice is identified.
287. Evaluate the plan of care, use the evaluation column to document whether the plan requires revision or when outcomes are met, thus indicating when a particular nursing diagnosis is no longer relevant to the client's plan of care.	287. Nursing care plans are continuously evaluated and revised.
288. After reassessing the patient, review the care plan, compare assessment data t validate the nursing diagnoses, and determine whether the nursing interventions remain the most appropriate for the clinical situation.	288. Nursing care plans should be evaluated based on the patient's status.
289. If the client's status has changed and the nursing diagnosis and related nursing interventions are no longer appropriate, modify the nursing care plan.	289. Modifying the NCP according to patient status.
290. An out-of-date or incorrect care plan compromises the quality of nursing care.	290. Nursing care quality is affected by lack of evaluation of nursing care plan.
291. Review and modifications enable you to provide timely nursing interventions to best meet the client's needs.	291. Patient's needs are best met by updated nursing interventions.
292. Revise data in the assessment column to reflect the client's current status.	292. Assessment data should reflect patient's current status.
293. Evaluate expected outcomes and determine if the goals of care have been met.	293. Outcomes should be evaluated.
294. Decide if you need to adjust the plan of care.	294. Plan of care may need adjusting.
295. If you meet a goal successfully, discontinue that portion of the care plan.	295. Accomplished goals no longer need attention.

Significant Statement	Formulated Meaning
296. Unmet and partially met goals require you to continue intervention.	296. Unmet and partially met goals continue to need attention.
297. After you evaluate a client, you may want to modify or add nursing diagnoses with appropriate goals and expected outcomes, and establish interventions.	297. After evaluating patients, modifications and additions to Nursing care plans may be done.
298. Redefine priorities.	298. Priorities can be clarified after evaluation.
299. This is an important step in critical thinking-knowing how the client is progressing and how problems either resolve or worsen.	299. Critical thinking involves understanding changes in patient conditions.
300. Critical thinking skills promote accurate evaluation which leads to the appropriate revision of ineffective Nursing care plans and discontinuation of therapy that has successfully resolved a problem.	300. Critical thinking is promoted through evaluation of NCP.
Ackley, B. & Ladwig, G. (2008). *Nursing diagnosis handbook: an evidence-based guide to planning care (8th ed.)*. Mosby: St. Louis.	
301. This textbook utilizes both research and the nursing process and assists the nurse in increasing use of evidence-based interventions in the clinical setting.	301. Promote quality client care through the integration of evidence-based nursing
302. Write out and elaborate the nursing process.	302. Aid the student in learning the nursing process
303. A nursing diagnosis is a clinical judgment about individual, family or community responses to actual or potential health problems or life processes.	303. Nursing diagnoses are an applied judgment.
304. The nurse assesses the client, being alert for symptoms that will help formulate a nursing diagnosis.	304. Nurses' assessments will lead to formulation of nursing diagnoses.
305. It is a problem-solving approach designed to enhance the profession of nursing and to promote quality client care.	305. A problem-solving approach designed to enhance the profession of nursing.
306. Assessment information is obtained first by doing a thorough health and medical history, and listening to and observing the client.	306. Data collection is done through interviewing, observation.

Significant Statement	Formulated Meaning
307. Information is also obtained by performing a physical assessment, taking vital signs, and noting diagnostic test results.	307. Data collection occurs through physical assessment and diagnostic result analysis.
308. Select an appropriate nursing diagnosis label using critical thinking skills.	308. The student will demonstrate critical thinking skills to make appropriate nursing diagnoses.
309. Identify symptoms or defining characteristics.	309. Symptoms are identified and listed.
310. Cluster the symptoms.	310. Recognize common symptoms.
311. Analyze the symptoms.	311. Think analytically about symptoms.
312. The process of identifying significant symptoms, clustering or grouping them into logical patterns, and then choosing an appropriate nursing diagnosis involves diagnostic reasoning skills that must be learned in the process of becoming a nurse, this textbook serves as a tool to help the learner in this process.	312. Textbook as a tool to help learner develop diagnostic reasoning skills.
313. To ensure continuity of care, the plan must be documented and shared with all health care personnel caring for the client.	313. Nursing care plan as a communication tool to improve continuity of care.
314. Rationales are research based to validate that the interventions are appropriate and workable.	314. Research validates the use of interventions.
315. Although evaluation is listed as the last phase of the nursing process, it is actually an integral part of each phase and something the nurse does continually.	315. Evaluation is continuous in care planning.
316. Just as nurses continually evaluate the interventions and outcomes of care delivered, so too must they continually evaluate the research supporting the interventions, to provide state-of-the-art evidence based care.	316. Evaluation is continuous in justifying care planning.

APPENDIX B

EXAMPLE OF PHENOMENOLOGICAL DATA ANALYSIS

Significant Statements	Formulated Meanings	Themes	Theme Cluster
Through the case study, she will develop a greater interest in all patients.	Instill interest of the individual patient on the ward experience which will improve nursing care given to each patient.	Each patient is treated as an individual with their care planned accordingly.	Learning Objectives
Becomes a central source of information about the patient and his needs to be communicated to all nursing personnel.	Care plan will be used to communicate information about the patient and his needs to all patient care personnel.	The plan is used as a resource to communicate among all teams.	

VITA

The researcher is a native of Louisiana but has lived in the District of Columbia and Dallas for six years. Through these cities she has seen various ways of living and has come to appreciate the culture and heritage of Louisiana. She currently teaches at Our Lady of the Lake College, School of Nursing. Her teaching specialties are pathophysiology and health assessment across the lifespan. After completing her doctorate, she aspires to practice as a family nurse practitioner once again. It is her goal to teach and practice so as to remain fresh on current practice issues.

Life has drastically changed for this researcher since the inception of her doctoral studies. She has given birth to two beautiful children, William Lawrence in 2008 and Vivian Ann in 2010. She resides in Baton Rouge with her husband, Grey and their two children.